IDRC-056e

The delivery of health services in the People's Republic of China

Peter Wilenski

3816

Abstract

In recent years there has been an increasing number of reports on the health system of the People's Republic of China, many of them describing in detail various features of China's health policies and programs. This monograph, which was written with the assistance of a grant from IDRC, draws on these reports and other documents and original Chinese publications in attempting to provide an overview of China's health system. The apparent success of China's system has led many observers to speculate on the relevance of this process for other regions. The author examines this question, and points to aspects of the Chinese system that might be applicable elsewhere.

Résumé

En ces récentes années, on a pris connaissance d'une augmentation de rapports relatifs au programme de la santé publique en République Populaire de Chine. Un bon nombre décrivent, avec force détails, les diverses facettes des politiques et programmes de santé de la Chine. Cette monographie, qui a été réalisée grâce à une subvention du CRDI, par ces documents et rapports et certaines publications chinoises originales, s'efforce de donner un meilleur éclairage de ce qui se fait en Chine quant au service de santé. L'expérience chinoise a incité les observateurs à méditer sur la pertinence de cette démarche pouvant être applicable en d'autres régions. L'auteur examine de près la question et s'arrête aux aspects du système pouvant être repris ailleurs.

Community Health Cell
Library and Documentation Unit
BANGALORE

ISBN: 0-88936-072-3
UDC: 613(510)
© 1976 International Development Research Centre
Postal Address: Box 8500, Ottawa, Canada K1G 3H9
Head Office: 60 Queen Street, Ottawa
Microfiche Edition $1

The Delivery of Health Services
in the
People's Republic of China

R. Mahadevan
Received On. 23rd June 76.

IDRC–056e

The Delivery of Health Services in the People's Republic of China

Peter Wilenski

(This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada. The views expressed are those of the author and do not necessarily represent the views of the Centre.)

About the Author

Peter Wilenski, M.B.B.S., who was head of the Aid and Development Section of the Treasury, Australia, undertook this work while an Honorary Fellow of the Department of International Relations of the Research School of Pacific Studies at the Australian National University from September to November 1972.

The completion of this monograph was delayed due to his appointment as Principal Private Secretary to the Prime Minister of Australia. Dr Wilenski is at present Secretary of the Department of Labor and Immigration of Australia.

The great debt of the author to Ms Leslie Chan for her research assistance is gratefully acknowledged.

COMMUNITY HEALTH C
LIBRARY
AND
DOCUMENTATION
UNIT
ANGALORE.

3816
COMH 300

Contents

Chapter 1. Medical Care Systems in Developing Countries and the Chinese Approach 5
Developing countries and Western models for health services 5
Alternative approaches in the PRC 7
Chinese policy: health and economic development 7
Chinese policy: prevention and the mass line 9
Chinese policy: new health worker roles and institutions 10
The Chinese model of health services 13

Chapter 2. Mobilization of the People for Health Work: A Labour-Intensive Model 15
The mass line 15
The patriotic health movement 18
Antischistosomiasis activities 22
China's labour-intensive model 26
Appendix: Text of report of Chinghai Provincial Revolutionary Committee Directive 28

Chapter 3. Integration of the Traditional Chinese Practitioner into the Medical System 31
Original CCP policy toward traditional practitioners 31
Why policy failed 32
Change of attitude toward traditional practitioners 33
Traditional remedies 36
Present status of traditional medicine in the PRC 37

Chapter 4. The Rural Health Network: Innovations in Organization and Health Worker Roles 39
Developments before 1965 39
Mao's June 1965 Directive 40
Implications of Mao's Directive and the new system 41
Barefoot doctors 45
Cooperative medical schemes 47

Chapter 5 Summary: Applicability of the Model in Other Countries 51

References 53

Preventive injections for children at Leyuan Commune.

Chapter 1

Medical Care Systems in Developing Countries and the Chinese Approach

The choice between different paths leading to improvement of the health of the general population is an important decision for the government of a developing country. It is important firstly because high priority is given to health in the allocation of resources: many developing countries spend from 8 to 16% of their national budgets on medical services (1). It is important secondly because different medical systems or different patterns of morbidity and mortality have different influences on the rate of economic development. Finally, it is important because the achievement of better health is in itself a major part of an improved quality of life, which is the aim of the process of development.

It is obvious that the socioeconomic conditions of a country will have an important bearing on the type of medical system that it should choose. There are many different ways to achieve a given health goal, and the optimum path will vary with different urban/rural distributions of population, different disease patterns (requiring, inter alia, different emphasis on curative and preventive medicine), different degrees of literacy, different capital/labour price ratios, and so forth. Yet there have been remarkably few studies of the cost-effectiveness of health programs, and the general tendency in many developing countries has been to adopt the Western model of health care and make only slight adaptations that do not alter its basic structure (2). Furthermore there has been little study of the effects of different models of medical care delivery on the process of socioeconomic development, which has become the overriding objective of the governments of most developing countries.

Developing Countries and Western Models for Health Services

The Western model of medical care, though it has been widely adopted, appears to be of little relevance to the conditions and goals of developing countries. Medicine in industrialized countries is concentrated on personal health care and is firmly based on the individual doctor-patient relationship, i.e. on individual care by a highly trained physician or a small team under the direction of a physician. This is a system that developed naturally from that of the nineteenth century when biomedical technology had little to offer, and the relief afforded the patient relied largely on his relationship with the doctor. Then, as biomedical technology developed, it was designed to be introduced into the individual doctor-patient transaction and was thus capital-intensive and directed at curative rather then preventive medicine. Furthermore it was concerned with diseases of comparatively little importance to developing countries, since Western mortality and morbidity rates had fallen with increases in general standards of living, nutrition, and sanitation, and many diseases had been largely eliminated without specific cures being found. Many of the disease problems of developing countries had thus been bypassed (3).

With increasingly complex technology, the doctor-patient relationship has been modified and the patient may now be treated by a different specialist for each complaint or by a hospital team. The basic pattern, however, of provision of

clinically decisive medical services by the individual doctor (or by others under his personal supervision) in conformity with the specific needs of the individual patient has been maintained. This is a system that depends heavily on a large supply of expensively trained skilled personnel and the availability of ready access to them. It also relies heavily on the actions of the individual patient: it is the individual who decides when he is "sick," it is the individual who decides whether or not to seek out a medical practitioner, it is the individual who decides whether to follow the physician's directions and consume his nostrums. Thus, to work efficiently, the Western system requires an expensive and extensive medical education system, sophisticated equipment, and a literate population with some sophistication about disease and some faith in the medical profession.

The same basic system of care, however, is now the dominant one also in developing countries. Thus, for example, a WHO study in 1964 found that Chile and Ceylon (now Sri Lanka) (not unrepresentative of countries in their regions) devoted 90 and 94.4% respectively of their health expenditures not to environmental medicine or health education but to personal health care (4). The major modification of the Western system has been the addition in some countries of numbers of medical assistants with somewhat shorter training, but these for the most part act as doctor surrogates and do not affect the basic health care structure. Developing countries, of course, also inherited a traditional system of medicine provided to the villager by indigenous healers. However, the new system has not developed from this traditional relationship but has been set down alongside it, often undermining it. As a result the urban rich for whom the system is reasonably well suited receive adequate treatment, whereas most of the rural population has little or no access to medical care (5).

Equally important, because medical systems in many developing countries have simply grown, by addition and ad hoc adaptation, from the systems inherited from colonial powers, has been the little success in making health planning properly part of national planning. The medical system itself has usually not been examined to see how well its basic structure is suited to the goal of economic development. Very few countries have been able (or have tried) to overcome the resistance of the medical profession and the bureaucratic inertia, which are major obstacles to the transformation of this medical system and its integration into the process of economic development planning.

The adoption of this system by developing countries appears to be a typical example of technological "misfit" (6).

This does not mean, of course, that all delivery systems throughout the Third World are the same as those in the West, or indeed that all Western ones are the same (for a discussion of these systems see Abel-Smith (7)). However, central characteristics of this medical care delivery system based on the individual doctor-patient relationship have been retained in many countries — largely as a legacy of colonial days or mission-introduced medical care. The attendant expensive biomedical technology also continues to be much prized. This is so even though it is clear that the system is ill suited to the medical, economic, and social environments of developing countries. Thus, in developing as opposed to industrialized countries, no clinically decisive treatments have yet been discovered for many of the prevalent diseases; there is an urgent need for preventive as opposed to curative medicine; numerous communicable diseases require primary emphasis to be placed on environmental control; capital is scarce but the supply of labour is plentiful; the population is for the most part rural and poorly educated; and so forth. Even if a great deal of money is spent on an individual patient-care system it obviously cannot provide high standards of care to more than a small urban proportion of the people. The lack of relevance of the Western model of medicine for developing countries is accentuated by the fact that economic development was not a goal of any importance in the development of medical care systems in the West, or in the development of the decision-making structure, such as it is, within those systems.

Alternative Approaches in the People's Republic of China

Various attempts have been made in different countries to move away from this traditional model. It is probably only in the People's Republic of China (PRC), however, that government policy (after an early period in which medical care was delivered largely along conventional lines) has been to break down the whole conventional system of health worker roles and institutions, and to embark on developing an innovative and labour-intensive model especially adapted to the needs of the rural populace and the goal of economic development.

The degree of success that the PRC government has had in turning this alternative model of health care into reality still remains a matter of study and debate. However, the model is a radical alternative worthy of examination in itself as well as for the lessons to be gained from the painful course that had to be taken to arrive at the form that it now takes.

In 1949, China was a country where the enormous health problems of every developing country created by poverty and infectious disease had been exacerbated by years of war against Japan as well as civil war. Infant mortality ranged up to 200 deaths in the first year of life per 1000 live births; perhaps 30% of children died before the age of 5; and the maternal mortality rate was about 1.5% (8). To grapple with these problems, medical resources, measured in conventional terms, were even scarcer than in many other developing countries. The ratio of people to hospital beds was 6550:1 with the number increasing to three times that in the rural areas (9). Estimates of the numbers of doctors graduated from schools of Western medicine vary from 10,000 to 40,000 (10), but even the higher figure would mean that there were more than 10 times as many people per doctor as in industrialized countries, and the concentration in the cities meant that modern medical care was virtually unattainable in the rural areas where over 80% of the people lived.

Clearly any attempt to deal with China's medical problems by an expansion of these conventional resources would have been a never-ending (and impossible) task. The government therefore decided on an initial strategy that placed preventive medicine first and mobilized the people themselves to carry out this preventive work, and that rapidly expanded medical resources available by utilizing indigenous practitioners and medicaments. It also explicitly recognized the link between health services and increased production.

The four guiding principles laid down by the First and Second National Health conferences in 1950 and 1951 were:

(*a*) serve the workers, peasants, and soldiers;
(*b*) place the chief emphasis on prevention;
(*c*) stress cooperation between doctors of Western and traditional medicine;
(*d*) rely on mass movements for the carrying out of health work (11).

Chinese Policy: Health and Economic Development

Outside China the tendency in national planning in developing countries throughout the 1950s and 1960s was to disregard the effect of health care programs on production and economic development. By and large the medical budget was regarded as consumption rather than investment — an end of development rather than a means. However, the increasing attention of economists to "investment in man" (and in particular to education expenditures) as a vehicle of economic growth, led also to a theoretical reassessment in the 1960s of health expenditures. Consumption expenditure on health, it came to be argued by some economists, was of a special type (sometimes termed "development consumption" (12)), which, like investment, led to increased future production. The corollary of this approach is that health programs should be integrated into national planning for economic development. There is now a fairly extensive literature on the economic effects

of health programs but for most countries the final step of integration is still a long way off.

In China, however, the link with production, even though it has not been considered in quantitative terms, has been a constant feature of public health literature and programs since the early 1950s. "The principal aim of health work is to ensure industrial and agricultural production," China's health workers are told (13). "The firm guideline of health work is to proceed from production, coordinate closely with production and serve production" (14). The first principle of the health campaign directive issued by the Chinese Communist Party (CCP) Central Committee and the State Council in 1958 was that the "campaign must be combined with urban and rural production so that it will directly serve the purpose of production" (15). The CCP Central Committee in 1956 explicitly included instructions on health work as an important part of the National Programme for Agricultural Development (16), and cadres were told that "health work must proceed with a view to developing production. Under the unified leadership of the Party committees, production and health work must be closely coordinated and planned. The more intense the production, the more attention must we pay to health work; the better the health work is done, the higher will be the production level. This, in a nutshell, is the dialectic unity in the relationship between production and health. Health work concerns every person and every department" (17).

In the rural areas the people have been told that "to protect health of labourers and raise the attendance rate and labour efficiency of the labourers is to render the most effective aid to agricultural production. Health personnel must of necessity go to the first line of production . . . " (18). In the city, health authorities have stated that "municipal authorities dealing with health and medical services all concentrate their attention on serving industry."

Residents of a ranch in the Tienshan Mountains of Sinkiang greet an army medical team from a field hospital in Sinkiang.

Emphasis has also been placed on delivering medical care in such a way as to minimize disruption to production. A *Red Flag* article in 1960, for example, reported, for other health workers to emulate, that "since the Party put forward its great appeal to all trades and industries to provide aid to agriculture, many medical institutions, in accordance with the principle of serving production and giving convenience to the masses, have continued to reform and improve their medical systems. Instead of waiting for the patients to turn up at the clinic as formerly was the case, medical workers now go deep to the work sites, fields, stock farms, mess halls, and other collective production and livelihood units to give treatment to the sick whom they meet" and to do preventive work. This work is as usual bolstered by the use of slogans, such as "five-to-the-fields" (health workers to carry out propaganda, conduct investigations, provide medicines, give treatment, and themselves work in the fields), "five-to-the-house," and the "three-carry" work method (health personnel to carry medical supplies, water bottles, and work tools) (19). Preventive work is also heavily oriented toward integration with production, with the peasants themselves carrying out preventive tasks in conjunction with production, and more intensive campaigns being conducted during slack farming periods.

It cannot, of course, be claimed that the Chinese have in any formal sense been consciously working on the basis of some health-care-input/production-output ratio either for the economy as a whole or particular sectors or regions. What can be said, however, is that at a time when the effects of health inputs on the economic growth rate were hardly being mentioned in other countries, the relationship was being kept constantly in sight in Chinese policy, and attempts were being made to set priorities in the delivery of health care not only on humanitarian but also on economic grounds.

Chinese Policy: Prevention and the Mass Line

The second major theme of Chinese health policy — emphasis on preventive medicine — also has a sound economic basis as the cost of preventing a disease is usually far less than the cost of its cure. This is all the more likely to be true if methods of prevention are as highly labour-intensive as in China. Advice to developing countries that preventive medicine is a far better investment in health care than is curative medicine is, of course, by now no more than a platitude. But it is equally true that in many countries (apart from specific campaigns such as malaria eradication) little more than lip service is given to the principle; the temptation is to divert resources into the more glamorous (and more immediately politically rewarding) field of curative medicine. Equally, doctors and many other health workers are often ignorant of preventive work and reluctant to undertake it, and prefer the role of healer of the sick.[1]

The concentration on preventive work in internal directives to health workers and cadres, and the emphasis on prevention in mass propaganda, indicate that this mistake is well understood in China, although as in other countries it has not always been easy to convince the practitioners.

There are two major vehicles of preventive care in the Chinese program: the first is the insistence that all medical workers, when carrying out curative work, combine it with the preventive; the second is the use of the people themselves in mass campaigns.

---

[1]Thus, for example, most health centre doctors in an Indian study considered curative medicine as their primary task; one-third spent less than 20% of their time on preventive medicine; reorientation courses have had little impact on these attitudes (20). Similarly, the Assistant Medical Officer, whose role is said to be specially designed for developing countries, is in practice, apart from carrying out immunizations, even less inclined than the physician toward public health or preventive medicine (21).

As far as the first is concerned, Mao's injunction to "put prevention first" and directives to combine preventive work with any curative tasks done are continually repeated. Local institutions such as lane and production brigade health stations and the workers in them who give medical treatment are enjoined also to provide preventive services. Health workers are always being reminded that "in the course of preventive and curative work, the link of prevention must be grasped properly, because prevention is better than cure."

It is difficult to evaluate how thoroughly these injunctions are carried out and this is one area where the Chinese themselves have from time to time admitted failures, especially in the period 1960–65 (referred to below) when practical difficulties arose in a number of agricultural programs and there was a resurgence of professional elitism in the Health Ministry. Public Health Minister Ch'ien Hsin Chung, in an article in the *Red Flag* in 1965, probably reflected resistance to the "put prevention first" line when he wrote that preventive medicine could not fill the real need for medical treatment and that it was "difficult for the mass to accept medical teams which talk only of prevention without giving medical treatment" (22). The return to private practice during this period also made it difficult to implement preventive medicine as doctors were concerned about losses, and "since 'profits' could only be reaped by giving medical treatment they paid attention only to medical treatment, but ignored prevention which brought no income. Because of this, the policy of 'prevention first' could not be implemented . . ."(23).

This trend, however, was reversed during the Cultural Revolution and the main feature of medical articles appearing in the press of this period was self-criticism and discussion of previous shortcomings. For example, in the *Independent Daily* (in September 1965) a worker from Tientsen Municipal No. 2 Hospital stated in typical fashion that "after discussing all related problems, we had very clear ideas about the aims of introducing reforms to our hospital. They were to serve production and labouring people in a more satisfactory manner, and successfully combine prevention with cure . . .. After reforms have been introduced to our hospital, medical personnel have gradually realized the importance of combining prevention with cure but with prevention as the primary factor. In the past a number of doctors paid little importance to prevention work under the pretext they were not familiar with this job. They have now realized the mistake of administering the cure without paying attention to prevention" (24).

The analysis of these shortcomings led to a renewed "prevention first" campaign under such headlines as "To Implement the Policy of 'Prevention First' It is Necessary to Criticize and Repudiate the Counter-Revolutionary Revisionist Line in Health Work" (25).

The main vehicle for preventive activity, however, is not the medical work force but the people themselves. It is in the integration of health services in the framework of political and social reconstruction and the use of the mass line in health work that China has introduced the greatest innovations. These are discussed at length in the following chapter.

Chinese Policy: New Health Worker Roles and Institutions

The third major strand in Chinese health policy considered in this book is the development of new types of medical manpower and new institutions to bring medical care to the countryside. This aspect of policy has changed and developed over time as innovation and political pressure gradually overcame professional medical resistance — and, indeed, also the resistance of some patients entitled, and attached, to conventional medical care.

The vast majority of people in most developing countries live in the rural areas but the medical profession is concentrated in the cities and does not want to leave. But the problem does not end there; it would not be solved simply by forcibly dispersing

doctors to the countryside. First, their training is such that they depend heavily on technical equipment and facilities available only in the cities; their expertise is biased toward urban diseases; and thus their effectiveness in the countryside is greatly reduced. Secondly, the numbers of medical practitioners are so few that they can make little impression. When they are sent to rural areas they are so swamped that they have too little time with each patient to apply their skill.[2] Furthermore their training, and the training of additional medical teachers, is so long and expensive that their numbers can be increased only very slowly.

These difficulties have been experienced by nearly all developing countries and very few have been able to set up effective rural medical systems. Attempts to get qualified medical practitioners out of the city have not usually been successful because of personal resistance, and those who do go out cannot use their skills. The training of "assistant physicians" with shortened medical courses to run rural health centres have run into much the same problems, as well as constant pressure to upgrade training (26).

One approach is to apply to medical services the same techniques as have been applied in the past to other tasks performed by skilled craftsmen when it became necessary to meet the demands of a mass market. The particular medical need can be identified and the task that normally meets that need examined and analyzed. The task can then be broken down into its component parts in such a way that at minimum cost each one of the parts can be carried out by a low-level "specialist" — an individual who is trained specifically to carry it out, and whose training costs little and requires only a few weeks or at most a few months (27). This approach ties in with the more pragmatic evolution of health work functions that recognizes that "with today's drugs, an intelligent villager, trained to recognize the two or three ailments most commonly found in a given area, may be able to do more to save lives and end sickness than the best doctor in the world could have done 25 years ago" (28).

What all this implies for rational health planning is a diversion of resources from the long and expensive training of doctors in conventional medical schools, and from sophisticated research with expensive equipment, into the training of health workers who can carry out simple tasks and treat common diseases. Such a diversion, however, has met with strong resistance from the medical profession (normally very influential in ministries of public health), usually on the grounds of breakdown of professional standards but more fundamentally because it is a reflection on the usefulness of their own training and a challenge to their standing in their profession and in the community. The leaders of the Soviet Union in the 1920s felt that they could reorganize their medical system only by breaking the power of the doctors as a corporate group and, a more difficult task, reducing their status to that of other health workers (29). Governments in developing countries by and large do not have the political and administrative resources to make this a feasible option, and indeed medical resistance is sometimes reinforced by governments and elites who see new systems as an "inferior" form of medicine being foisted on them by neocolonialists.

The PRC government has been beset by problems similar to those of other developing countries. Although it has not been able to solve all these problems, it has, after initially adopting a more or less conventional approach to curative medicine, embarked on innovations of considerable importance in the development, against professional resistance, of new health worker roles of this type.

In the first years after Liberation the major innovation was in preventive mass campaigns and not in new medical workers or institutions. In medical training as in other fields, the Russian example was looked to and extolled (30). The number of conventionally trained doctors graduating each year was increased from 1391 in

[2]Takulia et al. (20) (their page 38) reported that one-third of Indian health centre doctors interviewed spent an average of only 30–60 seconds with each patient while another third spent an average of 1–3 minutes.

Sanitation parade: the banners promote the elimination of diseases by improving health standards.

1949–50 to 5393 in 1957–58. Intermediate medical manpower (doctors' assistants, nurses, midwives, and other groups similar to Russian "feldshers" (31), as well as junior pharmacists and laboratory technicians) trained in secondary medical schools slowly increased in number from an original 140,000 in 1949 by only about 15,000 each year to 1956 (32). The basic institution for medical care was the hospital and this was extended so as to provide one in each *hsien* (county). Beyond this there were some united clinics and public health stations established but private practice was still common and medical care as far as the average villager was concerned had not changed much since pre-Liberation days.

The one real innovation during this period was the attempt to utilize the extensive medical manpower that existed in the form of traditional medical practitioners. The PRC stressed indigenous practice from the start (see Chapter 3 for a discussion of this and the difficulties encountered) but in other countries this source of medical care has been ignored and only recently, with the Chinese example before them, have other countries recognized the potential of this source.

This gradualist pattern was broken briefly by the "Great Leap Forward." As communes were established, each was supposed to establish and finance its own medical clinic (merging Chinese and Western medicine), while medical courses were shortened to provide more personnel more quickly and more medical teams were sent out on circuit to staff rural clinics.

Although there are numerous individual reports of the establishment of facilities at commune level in the years 1958–60 (33), it is not possible to assess the real degree of success these policies had. What is clear, however, is that after 1960 there was a return to a more conventional approach to curative medicine. The number of commune health centres is claimed to have declined between 1960 and 1963 from

290,000 to 70,000 (34) and there was a widespread return to private practice. At the same time, as in the rest of the education system, entrance standards for medical schools were raised, medical courses were lengthened, and a stress was put on professionalism, while the numbers of those graduating each year decreased. As mentioned above, the stress on prevention and mass health campaigns was also reduced. There was very real resistance by doctors to going out to the countryside and apparently some doubts in the Health Ministry about the usefulness of this practice in relation to the costs involved. There appeared to be a genuine difference at this time and earlier in the 1950s between two lines of thought, later attributed to Mao and Liu (though Mao's statements were themselves not always consistent), over the quality and quantity of medical education, the types of medical workers to be trained, the importance of traditional medicine, and the priority to be given to rural areas (35). Until 1965, then, the two real innovations with which there had been some success were the ones of traditional practitioners and the mass line in preventive medicine.

The major change in the Chinese model of health care delivery came in 1965, precipitated by Mao's now famous "June 26 Directive" in which he instructed that "the central gravity of health work be shifted to the countryside." Resources were to be transferred immediately from the diseases of the urban privileged to the diseases commonly occurring among the rural 85% of the population.

Mao called for a number of specific changes, such as the shortening of medical courses and the transferring of one-half of urban medical personnel out into the countryside (a target that is still probably far from fulfillment). However, two developments arose out of the directive and are particularly significant to other developing countries:

(*a*) the widespread training of a new style of medical worker, to become known as a "barefoot doctor," who would be drawn from the village, receive training in the treatment and prevention of common rural diseases, and remain in his own village to practice and work among his fellow peasants, thus approaching the problem of maldistribution of health workers in a totally new way;
(*b*) the impetus to press ahead with a decentralized locally financed cooperative health care system based on the commune.

Both of these had been elements of policy for a few years, but after 1965 they became central to the Chinese medical model (see Chapter 4 for an examination of their development). It is not suggested that Mao's June 1965 Directive has been fully implemented — indeed resistance to it and the attempts to overcome such resistance are discussed in Chapter 4 — but its importance has been in setting new directions.

The Chinese Model of Health Services

In a number of significant ways, the model of the health system being developed in China thus differs, either qualitatively or quantitatively, from the model used by industrialized countries and for the most part adopted by developing countries. It differs likewise from the system of the Soviet Union, in spite of certain points of similarity. The distinctive features of the Chinese system are:

(*a*) the stress on the link between health and the medical care delivery system on the one hand, and production and economic development on the other;
(*b*) the use of resources to deal with the common diseases of the majority of the people living in the countryside rather than on the treatment of, and research into, the diseases of the urban elite;
(*c*) the stress on prevention;
(*d*) the use of labour-intensive methods, including the "mass line," and intermediate technology to achieve these goals;

(*e*) the removal of the control of health care from medical professionals; the use of traditional practitioners to develop and expand the health system; and the training of new types of health workers with skills to match specific tasks;
(*f*) the special social orientation given to students, teachers, and specialist practitioners in all programs of training.

Three of the innovations of greatest interest — the use of the mass line in preventive medicine, the incorporation of traditional practitioners and traditional medicine into the health system, and the development of new types of health worker in rural cooperative schemes to meet rural problems — are analyzed in the following three chapters.

Chapter 2

Mobilization of the People for Health Work: a Labour-Intensive Model

Perhaps the most important aspect of public health policy in China is the mobilization of the entire population to carry out public health tasks — the "mass line" in public health. Most developing countries have found it impossible to find the resources to train sufficient health workers and to develop or import sufficient technology to make a major impact on many health problems. The Chinese approach is to substitute unskilled labour in huge amounts; labour is the resource that is available at the lowest opportunity cost (and its use has been organized so that health tasks can be performed with a minimum loss in agricultural output).

This approach, however, may be difficult to transfer to other countries. For the mobilization of the masses is not a task that can be performed by health workers alone, but one that requires the participation of the entire organization and state. Health work in China has been the responsibility of many other powerful institutions in addition to the Ministry of Public Health. Even with the apparatus available to the Chinese Communist Party (CCP), the policy earlier had its setbacks and encountered considerable opposition from peasants who feared it would disrupt their production and livelihood. It is doubtful whether many other countries would be able to exercise the political will and perseverance and to mobilize the human resources required to implement this approach.

The Mass Line

The mass line developed out of Communist Party experience in the years of struggle for leadership. In 1934 Mao declared that "the central task . . . is to mobilise the broad masses to take part in the revolutionary war . . . . If our comrades really comprehend the task . . . then they should in no way neglect or underestimate the question of the immediate interests, the well being, of the broad masses. For revolutionary war is a war of masses, it can be waged only by mobilising the masses and relying on them" (36). The masses then become the foundation of a labour-intensive development program (37) and one of the bases of Party leadership. According to Teng Hsiao-p'ing, CCP Secretary-General, in 1959 the correct method of work was "to integrate the leadership with the masses, to pursue the mass line in all fields of work, to mobilise the masses boldly, to develop energetic mass movements under the guidance of the leadership, to sum up the views and pool the wisdom of the masses and rely on the strength of the masses to carry out the policies of the Party" (38). The theoretical basis of the mass line rests on direct contact between the masses and Party cadres who are instructed to study the views of the people, identify problems and assess weakness and strengths. The cadres then report to the leadership, who issue directives (which may be reassessed and modified in the light of initial experience) that the cadres are then to explain and popularize among the general population to activate and direct them in the tasks decided upon by the leadership. Ideally then this is not a one-way process but one of "from the masses, to

the masses" (39).[3] The emphasis in the following discussion of the mass line in health will be on the use of massive inputs of unskilled labour, but it is important to keep in mind that in the Chinese context the mass line is a central concept of the ideology of Communist Party leadership, and is "the basic method by which Communist cadres seek to initiate and promote a unified relationship between themselves and the Chinese population and thus to bring about the support and active participation of the people" (40).

The mass line, on the basis of the experience gained in the 1952 patriotic health campaign, was specifically introduced as the fourth cardinal principle of health work at the Second National Health Conference in December 1952: "enlist the broad masses of the people and actively participate in the health campaign with them" (41). At the immediately succeeding Ninth General Conference of the Chinese Medical Association (CMA) all health workers were urged to forge links with the masses (42). Since then the mass line in health has been developed (though in practice it has been more successful in dealing with some health problems than with others) and is at the centre of every directive and exhortation on health work; e.g., "But how can a good job be done in prevention work this spring? The most important key is still the principle repeatedly stressed by Chairman Mao and the CCP Central Committee: Have confidence in the masses, depend on the masses, and resolutely follow the mass line" (43). It is a principle that is stressed at virtually every medical conference (e.g., the All China Conference on Parasitic Diseases in November 1958 was told that "carrying out the Party's mass line by mobilising the whole people against diseases is one of the sure guarantees of wiping out the widespread and most serious parasitic diseases. Only through the active participation of the whole people can the five major parasitic diseases be rapidly eradicated" (44)), and in directives on individual diseases: "In the struggle against trachoma it is imperative to thoroughly rely on the strength of the people and resolutely take the mass line . . . . We must fully mobilise the masses so that the work of trachoma prevention will be shaped into a huge mass movement with the participation of six hundred million people" (45).

Mass line in treatment and research

The mass line is applied principally in prevention but also is relevant in curative work and in medical research (though highly specialized technical research is, of course, also undertaken). Thus, the methods are, as far as possible, simplified; those that can be undertaken by the people with everyday materials are preferred: "In the course of propaganda, the principle of availability of materials should be stressed" (46). Treatment is modified so that it is suitable for mass use, and medical scientists are told to concentrate on common diseases and on methods that can be applied by the masses. During the rectification campaigns and antirightist struggle of the mid-1950s there was great criticism of scientists who isolated themselves from the problems of the people, did not want to emerge from their academic comfort, but hid "themselves in their studies for the sole purpose of seeking the novel and the rare in the hope of creating a sensation" (47). In reporting on the research on parasitic diseases carried out in New China three authors in the *Chinese Medical Journal* in 1960 cited the three main characteristics of the research as being: (1) that research had not been confined to hospital cases or urban surveys but had extended throughout the country uncovering much new epidemiological information; (2) much research was done on methods of treatment and prevention that could be readily adopted by the general population on a large scale and over wide areas; and (3) research had been carried out by all levels of health workers exploding "the old idea that science was a mysterious cult which only a few highly trained persons could practice" (48).

---

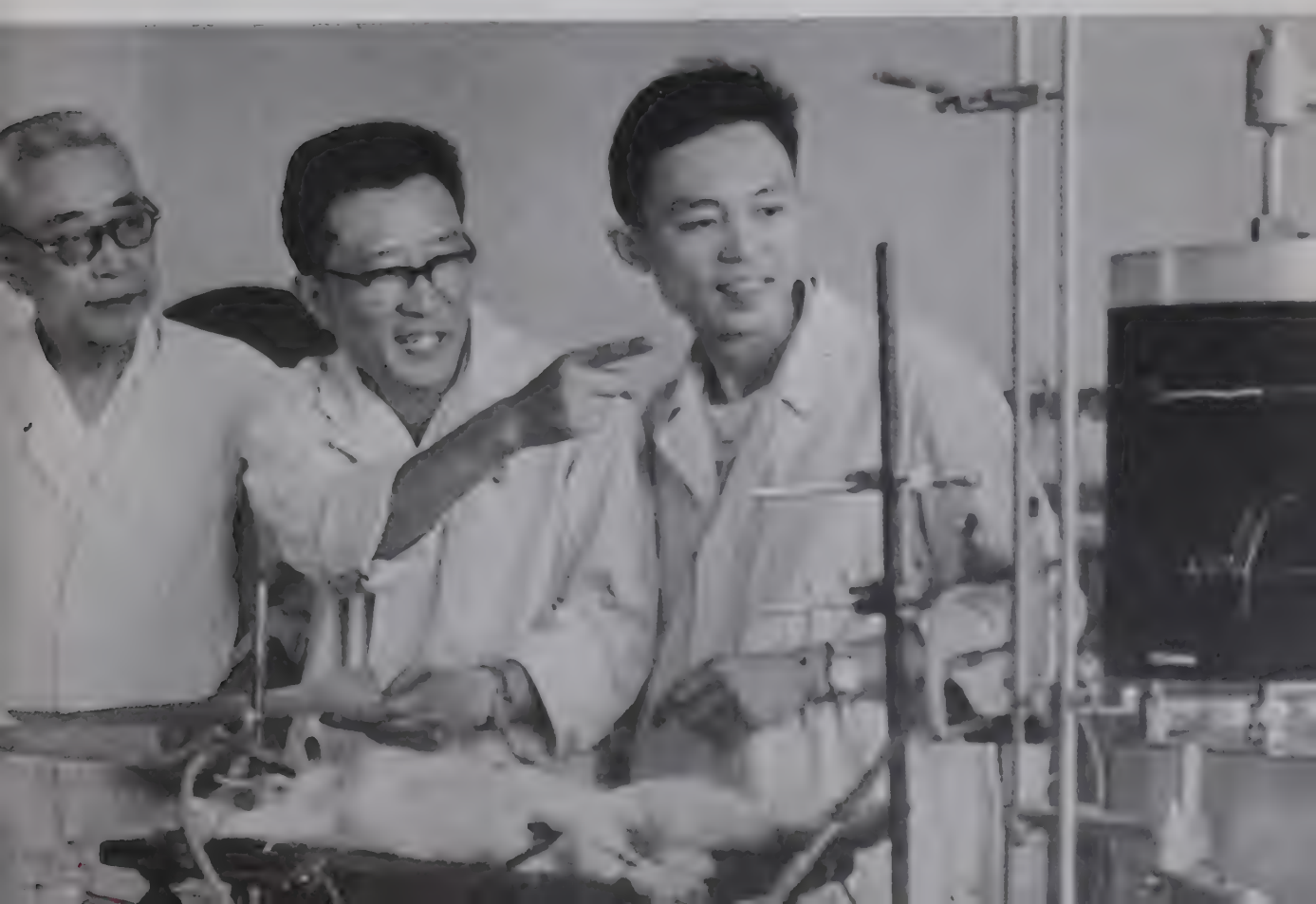
[3]In Mao's words, "The basic method of leadership is . . . directives for the general guidance of the masses."

Party leadership in health work

As indicated above, one important aspect of the mass line, from the point of view of organization of health services in other developing countries, is that when it was applied to health work in China this work was no longer left to the Ministry of Health but had behind it the entire resources of the Party. Party leadership is regarded as the "basic guarantee of victory" in health work. It is clear, however, that the Party and the mass line did not take over without continuing opposition from the entrenched professional establishment, and there was considerable debate within the Party itself as to what was the correct "line." The Vice-Minister for Public Health stated in 1960: "In health organisations there used to be the erroneous view that health work is a special field of science which laymen are not fit to lead. A great many medical and health workers who were seriously imbued with bourgeois ideology resisted the Party's leadership, thus causing the health work in their organisations to become divorced from politics and reality" (49). Despite the Minister's confidence this resistance has continued in some areas and is now attributed to the "revisionist line" of Liu Shao-chi (50).

Nevertheless the leadership of nearly all health work is clearly in the hands of the Party (though the structures and processes through which leadership has been exercised have changed over the years), and every general and specific directive insists on the central importance of personal leadership by Party cadres (e.g., "the crux of the elimination of trachoma lies in the leadership of the Party" (51)) and on disease prevention as a *political* task. Reports of successful campaigns stress the personal involvement of Party cadres. The following extract from a report of a 1972 patriotic public health campaign is typical: "The Party organisations and revolutionary committees at all levels in Chishan hsien paid particular attention to health work and strengthened concrete leadership over health work. They generally put health work on their agenda of important tasks. Their No. 1 and No. 2 men grasped health work personally and held meetings periodically to study problems and examine health work . . ." (52).

Teachers and researchers of Hsuchou Medical College and doctors of the college's teaching hospital conduct experiments with herbal anaesthetic on animals to study its counter-shock ability.



"Walking on two legs"

This mass line does not imply, of course, that new scientific and technical methods are completely ignored — but in accordance with the policy of "walking on two legs" increasing technical expertise is combined with mass popular participation. In the enthusiastic language of one group of medical workers: "For the rapid eradication of parasitic diseases, the Party not only provided the social and technical prerequisites, but also pointed out the way through which these could best be applied. Science and technology, once integrated with mass movements and disseminated among the people, mean incomparable power" (53).

The Patriotic Health Movement

The major instrument through which mass mobilization for the improvement of public health is carried out is the "Patriotic Health Movement." Although the movement continues throughout the year, major emphasis is placed on patriotic health campaigns lasting several weeks (usually in winter, spring, and late summer to early autumn each year), and on "shock attacks," which usually last 1–3 days and deal with some specific problem. The campaigns are usually nationwide. Every means of communication is used to activate the people to conduct fairly simple public health activities of all types, from street cleaning to the burying of snails, but mainly directed at improving sanitation and destroying the sectors of communicable diseases prevalent in each region.

The aim of health campaigns has been described as to "exterminate diseases, cheer the people, change old customs and habits and transform the country" (54). Following the Cultural Revolution stress has been placed on the patriotic health movement as "an integral part of Chairman Mao's line on public health and (as) an important measure for implementing Chairman Mao's directive, 'Put the stress on prevention' " (55).

Health campaigns

Health campaigns began shortly after the CCP took power, but the first really major campaign was conducted in 1952, with propaganda concentrated on the germ warfare campaign that the United States was said to have been conducting against China. The stress was on preventive work: inoculation and vaccination, sanitation — protecting sources of water, housecleaning, control of faeces, and reporting instances of possible germ warfare — and elimination of the "four pests" (56). This Patriotic Health campaign against the U.S., using every means of propaganda available (radio, newspapers, pamphlets, wall posters, blackboard bulletins, lantern slides, cartoons, lectures, drama, public forums, group discussions, street propaganda, exhibits, etc.) and appealing to patriotism and self-protection, was a powerful and effective means of spreading among the people an understanding of the germ theory of infectious disease (57). Once this scientific basis of preventive medicine began to be understood, and old superstitions exploded, the peasant could much more easily understand the need for the preventive measures he was being urged to carry out. This was a major boost to health work (58).

Since 1952, the campaigns have continued to concentrate on sanitary practices, the elimination of the four pests, and the elimination of the major parasitic diseases (in particular schistosomiasis, ancylostomiasis, filariasis, kala azar, and malaria), though at different times and different places greater stress has been laid on particular objectives, such as wiping out flies (59). In the summer–autumn campaign in the rural areas in 1959, the emphasis was placed on the management of human excreta, health and sanitary conditions in communal mess halls, and the fight against schistosomiasis where this disease occurred (60).

Much attention in the West has been focused on the "four pests" campaign, first launched in 1952, against flies, mosquitoes, rodents, and grain-eating sparrows. It is typical in that by means of gigantic publicity campaigns and utilizing the Party apparatus, the CCP mobilized the huge manpower of China to move against the pests using simple and inexpensive methods. These methods have been widely reported, but it is worth quoting one Japanese medical expert who was formerly a resident in pre-war China and visited the country again in 1962, since his comments are directly relevant to the theme of this paper.

"My observations in China were that, although the techniques used there seemed quite primitive, they were theoretically sound, and that a reappraisal of such techniques should be of some value. For instance with respect to mosquito and fly control one would immediately resort to chemical control in Japan, but in a country which is as poor as China materially, such means of pest control are not feasible, and, as a result, considerable stress was laid on eliminating the environmental conditions favourable to the breeding of such pests. Adult flies were pursued with fly swatters wielded with zeal, while unsanitary places, where eggs might be laid which might hatch and change to larva, were cleaned. Repetitious use of such methods has been encouraged with the programme still being continued today. The techniques for mosquito control are similar, i.e. the periodic clean-up of ditches and other stands of stagnant water where mosquitoes might breed, and the drainage of or the cultivation of fish in rice paddies. Although pest insects cannot be completely eradicated by such means alone, such methods are the best means available in China today, and there is no doubt that the programme was successful in drastically reducing the mosquito and fly population and various accompanying epidemic diseases.

"Although we all know that an attack on the pest insects' environment is quite effective, we in Japan tend to depend on insecticides and pesticides when the problem arises and forget about environmental hygiene. The success of the use of the primitive but theoretically correct technique in China, which she was forced to adopt from economic necessity, warrants some attention" (61).

Millions of people have been mobilized to perform these and other tasks such as pulling down sparrows' nests, and stopping up rats' holes. Huge quantities of dead pests have been collected (62) and many areas largely cleared of pests (63). However, the results cannot have been totally successful because in 1972, four years after the target date for the elimination of pests, the four pests campaigns continued as energetically as ever (64).

The campaigns have also concentrated on inducing the people to perform less dramatic and relatively simple tasks in the fields of sanitation (e.g., boiling drinking water, covering food, placing perishables in cold storage, collecting and controlling manure, placing lids on manure containers, keeping animals in pens), environment control (filling in refuse dumps and stagnant pools and other breeding areas, clearing garbage), and personal hygiene (e.g., housecleaning, using separate chopsticks and towels for each individual, toothbrushing) (65). Usually they stress activities that would be useless if only a few people in each community did them.

"Shock attacks"

In addition to these regular campaigns, "shock attacks" are organized at particular times (e.g., Spring Festival, May Day, National Day, New Year's Day) (66) or for particular purposes — usually cleaning streets and houses or killing mosquitoes and flies, or sometimes other purposes, such as eliminating spitting (67). (Although stress is laid in directives on coordinating shock activities with routine work (68), it is also claimed by critics that the shock tactics are only necessary because routine work has failed, and one newspaper reported in 1957 that sanitation had worsened in the cities in the previous few years (69). On the whole, however, foreign observers have been impressed by the cleanliness and sanitary condition of Chinese cities.)

On the conclusion of such campaigns or shock attacks, directives emphasize that inspections should be carried out and the results reported, e.g., the Peking City

Patriotic Sanitation Campaign Committee inspected households at random in seven districts of Peking during the Summer Campaign in 1955, and noted that 73.3% were found in sanitary condition (70).

Propaganda for the health campaign

The mobilization of the whole population of a province or even of the entire country, of course, requires a massive propaganda effort to explain to the people in simple language why health work has to be done and how to do it. All means of communication are used; slogans are repeated continually and street plays performed. Sometimes the propaganda effort is itself massive, e.g., for one campaign in Peking 50,000 workers turned out for the publicity drive and secondary schoolgirls planted themselves "in groups in conspicuous places in the busy quarters of the city" and, using loudspeakers and banging drums to attract attention, displayed picture charts and diagrams illustrating the harm done by the four pests, and the best ways of locating them and destroying their breeding grounds (71).

In addition, Public Health competitions are held between districts. Particular districts that have done extraordinarily well are widely publicized as examples to others (72), and people are encouraged to draw up "Public Health Pacts" by which they bind themselves to observe, in rivalry and emulation, practical rules of hygiene and public health (73).

Health education or health propaganda is regarded as the most important part of health work (74). In June 1956 the Ministry of Public Health issued a directive that all provincial and municipal public health departments should establish a special agency for health education (75). Public health education institutes were also established and cadres specifically raised in health education work (76).

Directives and propaganda on the health campaigns invariably stress three main elements. The first is integration of the campaign with, and its importance to, production (77). To this end cautionary examples are provided of the excellent production performance achieved by a brigade that combined health work with production, as compared with the poor output of a neighbouring brigade that tried to concentrate on production alone and neglected health (78).

The second is the stress on the mass line, as in the 1958 directive of the CCP Central Committee and State Council: "The campaign must rely thoroughly on the masses of the people, implement the mass line and spirit of industry and thrift in health work, and oppose the erroneous viewpoint that large sums of money, more chemicals and apparatus and numerous experts are needed to improve sanitary conditions" (79).

The third is the use of the Party machinery and the need for leadership of the campaign by party cadres (or, as in the late 1960s, by senior persons on revolutionary committees) (80). The movement is regarded as a "*political* task" to be fulfilled (81). "The Party leadership is the decisive key to the campaign . . . . The first secretaries of Party organisations of all levels must personally plunge into the campaign . . . ." More recently there has been increased reference to such devices for Party leadership as "three-in-one teams" (made up of cadres, the masses, and medical personnel) (82).

Most of the typical characteristics of a health campaign are included in a directive issued by the Chinghai Provincial Revolutionary Committee, which is reproduced as an appendix to this chapter.

Shortcomings

Some of the shortcomings in the patriotic health movement have already been discussed, and it is clear that the Chinese themselves, although proud of the achievements, have also been aware of failures and have discussed them frankly and openly. A report of the 3rd National Health Work Conference held in Peking in December 1953 opens with the statement that "the meeting made a thorough examination of the shortcomings and errors evidenced by subjectivism, bureau-

A recreation room at Peking Children's Hospital for children who are improving in health.

cratism and dispersionism, which existed in the health work of the last four years . . . ." The Vice-Minister of Health analyzed the shortcomings, such as insufficient integration with production and the formalism of many medical institutions. This had, he said, resulted from weak political leadership and neglecting the party while "bourgeois concepts" lingered on in the health department (83). The third session of the First National People's Congress in June 1956 saw a return to this theme with Minister of Public Health Li Teh-chuan criticizing such "defects" as lack of coordination with production tasks and failures in propaganda and mobilization of the masses (84). In 1958 an editorial in the *People's Daily* criticized cadres in those areas who had not been giving adequate attention to the task. There was special criticism of those cadres who did not worry about health, as they did not grasp the significance of the campaign for increasing production tasks; of those cadres who adopted an "attitude of bureaucratism" and refused to take responsibility for the campaign because it was too troublesome; and of those cadres who regarded themselves as a special class or as intellectuals and refused to take part in the campaign as they regarded it as beneath them (85).

These defects, of course, also reflect in part the very real difficulties of undertaking mass campaigns. The resistance of peasants who fear disruption of production (a fear that can easily be realized, as the organization of campaigns is a difficult task), loss of land through rerouting canals, and who at times prefer to work on their private plots, is not easy to overcome — especially when, as in some regions, they see an apparently cleared area reinfected again. It is not surprising that some cadres, with many other responsibilities, were reluctant to throw themselves into health tasks.

During the Cultural Revolution the Ministry of Public Health was one of the most thoroughly criticized ministries and Minister Ch'ien and all six Vice-Ministers were removed from office in June 1967 (86).

The criticism of those not following the Party Line has continued in whatever was the language of the day and is obviously still a problem. Cadres who state they do not have the time for patriotic health work, and who do not realize the significance of health work for the development of other work, continue to be criticized (87), and the campaign is seen as part of the struggle between the two lines with mass criticism to be carried out "to wipe out the remaining pernicious influence of emphasise cure and ignore prevention and formalism spread by Liu Shao-chi and other swindlers" (88).

Antischistosomiasis Activities

Space does not allow a detailed examination of how the mass line was applied to each major common disease in China[4] but it is worth looking at one at least: schistosomiasis (snail fever), perhaps the major parasitic disease of man, affecting over 150 million people throughout the world.[5]

In China in 1955, over 10.4 million people in Shanghai and 12 provinces along and to the south of the Yangtze River (corresponding to the distribution of the *Oncomelania* snail) were infested with schistosomiasis, with more than 10 times that number at risk. Most heavily affected were the provinces of Kiangsu, Kiangsi, Chekiang, Anhwei, Hunan, Hupeh, and Szechwan (90). Careful epidemiological surveys in China have shown that the chances of infection varied with the degree of contact with infested waters; the most susceptible were fishermen, boatmen, and young, poor, and lower middle peasants. Of the population in endemic areas, 20–40% were often infected and in some villages the rate reached 70% or more (91).

The districts where schistosomiasis is prevalent may be divided into: (a) flood plains, where the snails are present in rivers and canals but not in paddy fields and where infection is caused by daily contact (bathing, laundering, etc.) with infected water; (b) hilly regions where the disease is contracted by work in paddy fields (fertilized by infected manure); and (c) marsh and lake regions where infection is received mainly while cutting rushes and weeds along the banks of lakes in spring or summer. These differences in typical means of infection mean that local conditions have to be studied closely before an antischistosomiasis campaign can be mounted (92).

Leadership by the party

Schistosomiasis is regarded by the Chinese themselves as the most important of the diseases endangering the people and the antischistosomiasis program has been given high priority among Party goals. In November 1955 a special nine-man work team responsible to the Central Committee of the Party was established to direct the program, and the Central Committee issued a call for the basic eradication of the disease within 7 years (93). Such evidence of political will cannot be demonstrated in many other countries. The First National Antischistosomiasis Conference convened in Shanghai in December 1956 to consider means of carrying out the program and decided on the principle: "Spend one year to prepare, four years to fight, two years to clear up what has not been completed and to eliminate schistosomiasis in those areas where the condition is already ripe" (94). Meetings were then held throughout the country to plan the campaign, work was begun, and a second national conference held to report achievements and confirm the plans made.

---

[4]For brief accounts by Chinese authors of methods used and results achieved in other communicable diseases, see list in reference 89.

[5]Schistosomiasis in China is caused by the blood fluke (flatworm) *Schistosoma japonicum*. The fluke penetrates the skin of man and then lodges in the vessels draining the large intestine and inferior mesentery. It ulcerates the intestinal walls causing bloody diarrhoea and often abdominal pain and eventually causes enlargement of the spleen, anaemia, and ascites (hence the colloquial Chinese term "big belly"), and finally death by liver failure, cachexia, or massive haemorrhage. Transmission is effected by the passage of ova in human or other mammalian faeces (e.g., cattle); the hatching of the ova in fresh water with the liberation of a free-swimming miracidium; the penetration by the miracidium of a snail of the genus *Oncomelania*; and finally the metamorphosis of the larvae into cercariae, which return to the water once again to penetrate the skin of man.

In Party directives, great stress has continued to be placed on schistosomiasis. Mao himself has issued a number of directives that are continually quoted, as are Mao's two poems, "Farewell to the God of Plague," said to have been written on the evening that he read the news of the first county in China (Yukiang county in Kiangsi Province) to eliminate schistosomiasis (95). The Party has led the campaign, and the full range of propaganda tools (e.g., broadcasting, wall newspapers, house-to-house visits by prevention teams, blackboards, exhibits, films, street plays, discussion groups) has been used to dispel superstitious beliefs about evil spirits and explain the scientific basis of the campaign (96).

The mass line

The campaign has been based, of course, on the mobilization of the masses in prevention work. The huge numbers of workers employed, especially in the destruction of snails, was to compensate for the lack of expensive chemicals and would achieve what had not been done elsewhere ("there is no difficulty as long as the masses are relied on").

It is relevant that the line was adopted not without opposition (now attributed to Liu Shao-chi). This opposition was denounced as the "bourgeois reactionary line . . . which . . . relies on a small number of 'specialists' and professionals working in isolation from the masses. From the first, the reactionary bourgeois academic 'authorities' resisted the two-year programme to wipe out schistosomiasis (in Yukiang county) ranting that 'the programme has no scientific basis', that 'Japan has been studying this disease for decades without finding a way to wipe it out'. For a while the prevention work met all kinds of obstacles" (97).

Coordination with production

As well as employing the mass line, the campaign was also to be closely coordinated with agricultural production. The aim was "to lead the masses to handle correctly the contradiction between elimination of snails and production, and, breaking down the convention that elimination of snails can be carried out only in winter, to eliminate the snails in coordination with production the year round" (98).

This coordination with production had three aspects. First was the integration of different types of prevention work and of treatment of different groups at different seasons. Thus, in a given village, treatment of able-bodied peasants would be carried out in February and March before the spring ploughing. Treatment of those without full-time farming assignments was deferred till April or May, and other farm workers and children home from school were treated in late summer before the harvest. Where there was more than one patient in a family, treatment was scheduled to minimize the losses in family income. A "work and treatment" program was also instituted in which patients who worked in the daytime would be treated at night. Thus the loss of productive labour would be kept to a minimum and popular support sustained (99).

The second aspect of coordination with production was the integration of prevention work of different types with different productive tasks such as the coordination of burying snails with the building of new irrigation systems. Thirdly, explicit note was taken of the increases in production that resulted from both a decrease in numbers of sick workers and an increase in arable land available. Increased production figures linked with reduced morbidity rates achieved by a particular *hsien* or commune were widely publicized for others to emulate (100).

This linkage with production is now termed by the Chinese as "squeezing" and "inserting." " 'Squeezing' means putting production and wiping out snails in good order so as to make unified arrangements for them and to squeeze out time for doing them by shock tactics; 'inserting' means inserting the wiping out of snails into the course of production, to wipe out snails in connection with production and to wipe out snails wherever time can be spared" (101).

The attack on snails

The life cycle of *S. japonicum* allows the fluke to be attacked at a number of different points in its development to prevent the infection of man. The intermediate host (the snail) can be destroyed; the eggs can be destroyed in the faeces; a water supply can be protected so as to prevent contamination by eggs or cercariae; and finally personal hygiene can be improved so that chances of infection are reduced. At all of these points the Chinese authorities attempted to apply the mass line.

The most dramatic attack on the snail has been by altering its environment so that it cannot survive. Since snails cannot reemerge from under a layer of 10 cm of earth, the most common means of attack is burying the snails. Thus, for example, the peasants go into the fields and lower the water level in streams and irrigation ditches by temporarily blocking the flow. They then dig ditches along the sides dumping the surface earth at the bottom of the irrigation channel, and then bury the surface earth removed from the banks with fresh earth (102). Burying of snails may be supplemented by other physical methods, e.g., handpicking snails from trees (103) or cutting or burning weeds.

After the basic elimination of snails, regular antisnail patrols are maintained by trained "snail-spotters" who cruise along the rivers in canoes, scrutinizing the banks for snails (104).

This approach has often involved major engineering design with drainage of entire regions, construction of dikes and dams, reconstruction of irrigation channels, and reclamation of wasteland. The original investigation and design is conducted by three-in-one teams and the work carried out by labour-intensive methods based on the mass line. This has also facilitated the reconstruction of irrigation systems and the reclamation up to 1964 of a reported 300,000 acres, without, as far as is known, the immediate upsurge in schistosomiasis that has bedeviled irrigation projects in other developing countries.

The numbers mobilized have been impressive. In Anhwei province in one campaign in 1956, 1.5 million people were reported to have devoted 20 million man-days to the campaign. There are frequent reports of the entire working population of communes taking part in shock attacks. In K'unshan county, Kiangsu, 120,000 of a working population of 150,000 joined the movement. In 1970 more than 300,000 people set up tents near the Yangtze River, Lake T'aihu, and Lake Kaopao and embarked on a snail-exterminating campaign (105).

In addition to physical methods, chemicals such as sodium pentachlorophenate and calcium cyanide, which are lethal to snails, are also used (106). However, chemicals have not been a major weapon, apparently because they were too expensive and conflicted with Mao's teaching that "the principle of diligence and frugality should be observed in everything." Despite the effectiveness of chemicals, therefore, labour has often been used alone (107).

This use of the mass line in snail control is not of course without its drawbacks. Thus the nonuse of such snail-control practices as cementing irrigation ditches and periodic application of molluscicides open the possibility of reinfestation especially if there is a letup in mass health mobilization. This appeared to have happened early in the Cultural Revolution.

Faeces control

The second line of the attack on schistosomiasis is the destruction of the parasite's eggs in human and cattle faeces.

Faeces are of course valuable in China as the main source of fertilizer used in rice fields. It used to be customary practice to store faeces in pots or jars (which often overflowed) scattered along river banks or near rice fields and thus the eggs were spread. New methods of storage were introduced after it was found that the storage of a faeces–urine mixture for a number of days generates ammonia, which destroys the eggs as does the heat of ferment generated in manure composts. Reliance was then

placed on each family to maintain strict control of the disposal of faeces, and containers were placed in each household for collection of manure. To bolster the individual motivation, total reliance was not placed on propaganda, and monetary incentives were also used. In some areas, local control centres were set up that bought and collected the night soil, kept it for a certain period until the eggs were dead, and then let the peasants use it as fertilizer.

In addition, the disposal of faeces and the washing of excrement buckets in the rivers was banned; public latrines were built (63.27 million reported in the first 9 months of 1958) (108); animals were penned in separate enclosures, and in some areas special boats went along the houseboats to collect the faeces (109). This at the same time increased the amount of fertilizer available and reduced the risk from other infectious diseases. In one campaign the manure accumulated in three provinces was reported as 248.55 million piculs (110).

Personal hygiene has also been stressed and washing in infested waters was discouraged. Those who work in water where snails have not been totally eliminated are provided with stockings and gloves and protective ointment (111).

Treatment

There is still no cheap, safe, and reliably effective treatment of established cases of schistosomiasis. The main changes introduced by the Chinese in treatment after 1957, apart from simpler methods of case detection in mass surveys, were a reduction in the length of the course of antimony treatment to 3 days (though the high dosages involved were not without side effects) and an insistence that treatment as far as possible be carried out in the village rather than in hospital, thus reducing production loss. This permitted a great increase in the numbers treated (over 3 million in 1958 alone), with a saving in medical personnel. A team of three persons was reported as able to treat 3000–6000 cases per month with the new methods as against only 30–60 cases per month previously (112).

In addition many traditional remedies were tested for their appropriateness at different stages of the disease, and in accordance with the policy of "walking on two legs" a combined course of traditional and Western medicine was introduced, especially for patients whose physical condition had to be built up before they could undergo antimonial treatment (113).

Collecting human wastes for fertilizer for rice fields.

Assessment

Unfortunately the assessment of the results of the use of the mass line in the eradication of schistosomiasis is not straightforward because of lack of information on how faithfully the campaigns have been pursued at different times and lack of reliable morbidity and mortality statistics.

Accounts from individual villages make it clear that there were initial obstacles in launching the campaign. The Minister for Health complained of defects early in the campaign, such as that it was interfering with instead of promoting production and that a good job was not being done in propaganda and mobilization (114). However, by the second half of 1957 the campaign was clearly underway and the results were impressive. The Chinese report that by the end of 1959, work to wipe out snails had been successfully extended over a region of 6350 million square metres. Many counties had been declared snail-free, and of an estimated 7 million cases, 4.9 million had been treated, of whom 3.5 million had been completely cured (115).

There is no reason not to accept the fact that results of this general order had been achieved, but it is equally clear that the 7-year program (starting in 1956) for eradication came nowhere near to fulfillment. A national conference on speeding up antischistosomiasis work was held in Chengtu, Szechuan Province as late as 1966, and campaigns are continuing (116).

In explanation of the slow progress in some areas, the Chinese point to difficulties that arose in the years of natural disasters (1959–61) and the effects in the early 1960s of the line attributed to Liu Shao-chi, that there was no time for antischistosomiasis work, that emphasis on medical work should be other than in the countryside, and that there should be more faith put in specialists and less in the masses. Whatever may have happened at this time, it does seem that antischistosomiasis work was disrupted in 1966–68 during the Cultural Revolution, and the disease was reintroduced into some areas where it had been under control. Chinese publications themselves carry criticisms of those who state that they are so occupied with revolution that they do not have time for health work. In one way or another, therefore, the campaign has not always been carried out in the way that has been planned.

Overall, however, there can be little doubt that even if the Chinese claims of imminent eradication of the disease have been premature, inexpensive labour-intensive methods have resulted in a major improvement in health in the 12 affected provinces (117).

China's Labour-Intensive Model

In many developing countries the marginal productivity of labour in the countryside is very low. Underemployment is widespread. It has long been recognized that this meant that if such labour could be mobilized it could be used in productive tasks such as the building of public works at very low opportunity cost (i.e., with virtually no loss of agricultural production). The problem has been to establish the economic and administrative institutional framework to mobilize this "surplus" labour.

This is essentially what Chinese leaders have tried to achieve in patriotic health campaigns. By the use of all the apparatus of State and Party they have been able to raise the consciousness of the peasants and workers about the importance of health and sanitation. The primary role that should be given to health education in developing countries is often discussed in public health tracts, but only a very small proportion of health budgets is devoted to it. China has integrated health education into general political and social education and propaganda, rather than compartmentalizing it into a separate category to be carried out by specialists. The country has thus been able to develop a sense of individual and community

responsibility on health questions and mobilize the labour surplus for health work where others have failed.

A further unique element of all this has been the use of the surplus directly in health activities. A different strategy would have been to mobilize surplus labour for some other productive purpose and then trade its output for the supply of medical services. This, in effect, has been tried in other countries but clearly has the disadvantage that the people do not see the effects as directly, and the task still remains of instilling in the people a consciousness of what each individual needs to do for his own health and that of the community. It also runs into constraints caused by the shortage of trained public health and technical personnel (and the institutions to train them), which the techniques of mass mobilization and self-reliance avoid.

The lack of comprehensive national statistics (and any reliable statistics for the 1949 period to provide a base line) makes it difficult to assess accurately the effects of these programs. Some have had to be substantially modified as the Chinese learned by experience (e.g., the campaign against swallows had to be halted when their destruction led to the multiplication of insect pests). However, there can be no doubt of their very great success as compared to other countries. Mass campaigns have been more successful for some diseases (e.g., malaria, kala azar) than others (e.g., hookworm and schistosomiasis) but many diseases have been largely eradicated, infant mortality rates have fallen, and the reports of visitors are unanimous in recording the transformation of sanitary conditions in both city and country as compared to the pre-Liberation period. The patriotic health movement has been based on a unique combination of epidemiological knowledge and sociopolitical action to achieve considerable results in community health with a minimum of scarce resources.

Appendix

Text of Report of Chinghai Provincial Revolutionary Committee Directive (118)*

In accordance with Chairman Mao's great call "Be mobilized, pay attention to public health, lessen illness and improve health standards", a patriotic sanitation campaign is relevant to safeguarding the health of the masses, looking after their physical condition, improving efficiency at work, changing customs and habits, and preventing sickness.

Now spring is here, it gets warmer every day, and mosquitoes and flies begin to multiply. To ensure implementation of the great strategic plan "grasp the revolution and promote production and other work and preparedness against war", to develop further the fine situation of revolution and production, and win new victories, it has been decided to carry out a spring patriotic public health campaign in the Sining area, laying emphasis on the elimination of insect pests, the lessening of sickness and the improvement of environmental sanitation. The following is the directive in this connection:

(1) Strengthen organization and leadership, and boldly arouse the masses.

Under the centralized leadership of the Party, revolutionary committees at all levels should persist in putting politics in command and, taking the struggle between the two lines as the key link, carry out revolutionary mass criticism to wipe out the remaining pernicious influence of "emphasize cure and ignore prevention" and formalism spread by Liu Shao-chi and other swindlers. They should plan comprehensively and make proper arrangements; link the campaign with current production; boldly arouse the masses; handle correctly the dialectical relations between "public health serves production" and "production units should improve public health"; establish and encourage health organizations; and draw up effective action plans in the light of the actual conditions of the respective localities and units.

Leading comrades should personally take part in the campaign, play an exemplary role, and give some time to it even when they are busy. During the campaign, organizations at various levels should assign personnel to assume responsibilities at different levels, divide tasks and responsibilities, put all tasks on a firm basis, and combine [words indistinct]. Units at provincial level should follow the centralized leadership of the district and neighbourhood offices, implement their coordinated plans and accept their supervision and inspection, work together with them, vigorously grasp the campaign and establish regular health management systems. It is necessary to sum up experience and consolidate achievements continuously.

(2) Lay emphasis on the elimination of insect pests, the lessening of sickness and the improvement of environmental sanitation.

During the campaign, it is essential to implement effectively the spirit of the directive published by the provincial revolutionary committee on strengthening the management of public health in municipalities and towns and to emphasize the improvement of environmental sanitation. Government offices, PLA units, factories, mines, schools and other units and the neighbourhood residents of Sining area must clean all places inside and outside the municipality, get rid of all refuse, clean out sewers, level road surfaces, fill in low-lying areas, eliminate the four insect pests, prevent mosquitoes and flies from breeding and [?prevent sickness].

Neighbourhoods are asked to implement the "four withouts" — without refuse, without animal and human excrement, without fruit skin and peels and without

*This is a transcript of a radio broadcast, and not all passages were fully audible. Such passages are indicated by [words indistinct].

discarded bricks and stones — and the "three nots" — not drying clothes in public passageways, not piling up [words indistinct], and not keeping domestic animals and poultry. Government offices, schools, residents, and enterprises should implement the "four quietnesses" — quiet in houses, streets, dining rooms and toilets.

In health work, it is necessary to continue with the "three controls" — the leading organs, health departments and masses should exert control. It is necessary to carry out the "four pushes" — the districts push departments, the departments push subordinate units, the units push their cadres, and the cadres push their families — grasp the health work of units and localities well and firmly and get good results. Health departments should do a good job in the work of preventing sickness.

(3) Strengthen the supervision and control of food and drink services.

Food and drink services and collective dining halls are requested to follow strictly the sanitary [words indistinct] regulations laid down by central authorities. The sale of rotten or deteriorating foods is strictly prohibited. Stress is to be put on food sterilization, and efforts are to be made in [words indistinct]. In addition, food and drink services should be supervised and inspected by health departments.

(4) Carry out vigorous propaganda campaigns.

It is necessary to mobilize the masses to propagate vigorously Chairman Mao's important instructions on health work in an extensive and thorough way. Wherever possible, newspapers, radio stations, noticeboards and leaflets should be used so that Chairman Mao's line on proletarian health will become known to everybody and deeply implanted in one's mind. A new socialist practice should be established wherein attention to hygiene is encouraged and doing otherwise discouraged. Efforts should be made to grasp typical examples and promote model units.

Leaders at all levels are requested to take a personal interest in propaganda, examination and appraisal work and use the advanced experience of individual units to promote work in the whole area. In the movement, all districts and neighbourhoods in the municipality should form inspection groups to commend advanced units and push the backward units.

(5) The work schedule is as follows:

Ideological and organizational preparatory work is to be carried out from 10th to 15th April. During this period, Chairman Mao's instructions on health work should be studied and meetings should be held to mobilize the masses, make arrangements, draw up plans, and implement measures.

From 16th to 26th April, the masses, men and women, old and young, should go into action to bid farewell to the "God of plague". This is the time for an all-round clean-up movement. After 20th April, all departments and units are urged to examine themselves. From 27th to 30th April, a municipal inspection, appraisal, and summing-up campaign should be carried out. Achievements should be consolidated and [words indistinct].

Now, revolutionary committees at all levels in the municipality should strengthen their leadership organizationally and take prompt action to improve the sanitation of Sining Region (ti chu) so that Sining becomes a city in which everybody has discipline, keeps good order, behaves politely, pays attention to hygiene and is capable of winning further victories in both revolution and production.

Chou and county revolutionary committees should [words indistinct] and make arrangements and plans by taking consideration of the conditions obtaining in their particular areas.

A veteran doctor of traditional Chinese medicine treats a patient at the Peking Children's Hospital.

Chapter 3

Integration of the Traditional Chinese Practitioner into the Medical System

Before the introduction of Western medicine there has existed in virtually every developing country a large number of indigenous "healers" practicing various forms of traditional healing, ranging from highly complex systems of medicine with a sophisticated theoretical basis such as evolved in China and India, to collections of relatively simple folk cures of varying efficacy. These "healers" very often enjoy fairly high status in society and provide the people, at the very least, with something to turn to for psychological support in times of illness. (This was also pretty much the limit of the Western doctor's effectiveness until late in the 19th century.)

The introduction of Western medicine has left indigenous practitioners in developing countries in an ambiguous position — in some, their numbers are dying out whereas in others they continue to function parallel to "modern" services, e.g., one public health administrator claims that in African villages the patient "turns readily enough to Western practice for treatment especially where . . . the benefit is immediate and dramatic, but for the removal of the cause of his illness, he turns to the traditional practitioner. Thus, while he may accept Western medicaments for the control of his tuberculosis, he relies on traditional methods to counter the malign influences which led the tubercle bacilli to invade his body" (119).

In very few countries, however, have traditional practitioners been seen by either the colonists or the new elite as a medical network in situ that could be utilized in public health work. In most countries health administrators have been hostile to the "unscientific" medical tradition and looked forward to its demise. This might perhaps have been a reasonable attitude if a modern rural health service were rapidly established in the place of the traditional, but in fact reliance on conventional methods of health care delivery has put modern medicine beyond the reach of most of the people in the rural areas. Thus, the burden of illness has sometimes been increased rather than lessened. "The introduction of medicine has meant a loss of faith in the known, and when the new medicines proved too expensive people found themselves without any medicine" (120).

Original CCP Policy Toward Traditional Practitioners

It is in keeping with this trend that when the Chinese Medical Association on 28 June 1949, held its first meeting after the liberation of Shanghai and decided on the principles on which medicine was to assist in the reconstruction of China, Article 6 read "The unscientific native medicine is to be reorientated and duly abolished" (121).

The CCP itself was also ambivalent in its early attitude toward traditional Chinese medicine. On the one hand it was regarded as inferior to Western medicine, which at that time was seen as the basis for progress in health work. On the other hand, the Party did not recognize that a rural medical service could not be immediately established on the basis of the few Western-trained urban medical

workers available. It saw the need to make use of, and reform, the existing traditional system so as to extend the scope of health work.

These two strands of thought were evident in a speech given by Mao in 1944 during the anti-Japanese war. He told a conference of cultural and educational workers in the Shensi–Kansu–Ningsia border region that

"we cannot solve our problems by merely relying on the doctors of the new school. Of course the doctors of the new school are superior to those of the old school; but if they do not concern themselves about the sufferings of the people, train more doctors like themselves to serve the people and unite with the thousand and odd doctors and veterinary surgeons of the old school in the border region in order to help them to make some improvement, then they will be actually helping the practitioners of witchcraft and showing indifference towards the high mortality rate of men and cattle . . . . Our task is to unite with all the intellectuals, artists and doctors who come from the old society but are useful, and to help, educate and remould them. In order to remould them we must first unite with them. They will welcome our help only if we act properly" (122).

In accordance with this general policy the First National Health Conference decided that cooperation between doctors of Western and traditional medicine should be one of the three (later four) principles on which medical work was to proceed. These principles were to be repeated at all major medical conferences and the need to unite with and reform traditional medicine was often discussed. In large part this was a matter of logic and necessity, as long as the doctor was seen as the linchpin of the medical system, for although there were only at most 40,000 doctors with Western training there were about 500,000 traditional practitioners (123). In March 1950 Health Minister Li Te-ch'uan told a group of traditional practitioners that since Chinese medicine represented a very large force with close connections to the Chinese people, it would be respected, but that traditional doctors would have to accept scientific methods and cooperate with Western practitioners in raising their technical level. At the First National Health Conference the policy adopted was based on the attitude that in view of the shortage of doctors and medicine, Chinese traditional medicine should be utilized (because it was there and readily available rather than because of any inherent value it had). In the policy of "unite and reform" the stress was on reform of the traditional system by the Western (124).

Why Policy Failed

This, then, was a logical and dramatic policy based primarily on recognition of the useful preventive and curative work that could be done by Chinese doctors with a little training, and of the useful role they already performed in providing psychological support while Western medicine was unavailable. However, it was also a policy that did not work — as the Chinese later came to admit. In its initial failure and later counteraction taken, not only the resistance of the traditional system but also the resistance to reform of a Western technological/professional system, once it is implanted in a developing country, became evident.

The reason for its failure lay in the difficulty of reorienting the thinking of university-trained doctors and health administrators to work with these practitioners rather than continuing to regard them with condescension or contempt. University-trained doctors preferred to carry on with the hopeless task of attempting to build up a rural medical system staffed by degree and diploma level health workers. The CMA at its meetings hailed the four principles for health work that had been laid down, but it did not open the doors of its association to traditional practitioners. The pages of its journal (the *Chinese Medical Journal*) were virtually devoid of articles on traditional medicine, and scientific research on traditional medicine was neglected. Health administrators moved very slowly in introducing

colleges for short-term retraining of traditional practitioners and made little use of them in attempting to establish a health network (125). Complaints were raised that those traditional practitioners who were assigned to epidemic prevention stations were regarded as assistants or statistical clerks and could not use or develop their skills (126) or were organized for medical and first-aid work in road-repair and canal-digging teams (127). Traditional doctors assigned to work in hospitals had little status and were ignored by university-trained physicians.[6]

One of the main vehicles for unity and cooperation was to be the "united" or "combined practice" clinic. The words "united" or "combined" refer not to uniting traditional and Western but to the fact that these were group practices (rather than individual ones) with fees pooled and distributed among members. Although they were still for the most part private, the fact that they were cooperative in nature and state-supervised made them the first step toward socialization of medicine. However, it was also intended that the clinics would, in practice, associate both types of practitioner and raise the level of traditional medicine.

As it turned out, practitioners of each school in these early years, with no real pressure on them to work together if they had to combine, preferred to combine in clinics of one school or the other (128). Even separate clinics were not, however, as successful in practice as had been hoped for in theory, and many were criticized for their poor quality of care and for excess profits as well as their ineffective use of practicing doctors:

"In certain places, joint clinics have been established blindly in rural villages, regardless of the characteristics of small peasant economy, and the doctors who are partly engaged in farming and partly in medical practice and whose business is not at all prosperous, have been made to leave production, thus causing hardship to their living and loss to production. Moreover, to gather together the native doctors scattered in rural villages is alienation from the masses" (129).

Change of Attitude Toward Traditional Practitioners

Criticisms of the lack of attention being paid to instructions on cooperation with traditional doctors began to appear at the end of 1953. The following year, Fu Lien-chang, President of the CMA, wrote that

"if we had earnestly followed these instructions and had put them into practice we could certainly have had fruitful results in the direction of rational utilisation of the service of our oldtime doctors, of developing our ancient heritage, and enriching New China's medical science. But these results have not been obtained; and up to now several hundreds of thousands of our oldtime doctors are being treated with indifference. What is the reason for this? The reason is that, although the leaders in our health administration have themselves adopted the close unity of traditional and Western medicine the fact remains that they have not carried out this policy" (130).

By the end of 1954 there were repeated denunciations on ideological grounds of those who had ignored traditional medicine and a new "line" had been developed that the Chinese practitioners were to be given an important place in the medical system not simply because they were available in large numbers, but because Chinese medicine in itself was valuable and was a part of China's cultural heritage. Chinese medicine had to be studied, its achievements recognized and developed. Thus, later in the speech quoted above, Fu noted that

---

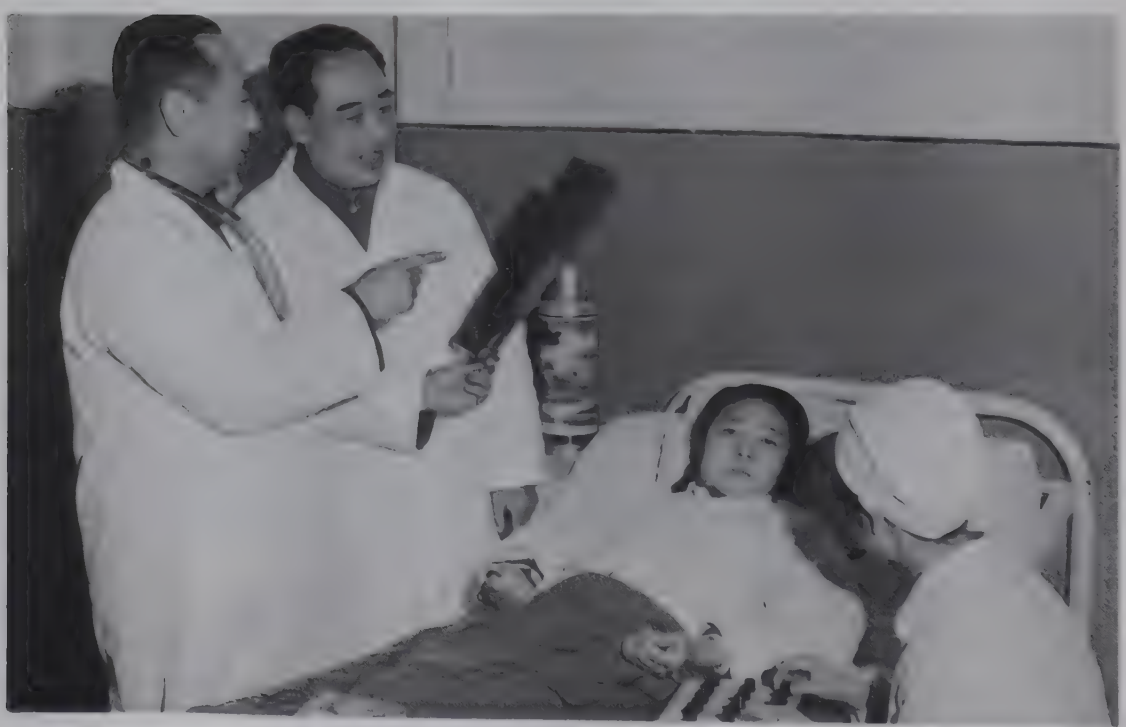
[6]Based on interviews conducted in Hong Kong in 1964 with medical personnel who had left the PRC, kindly made available by Professor Vogel, Far Eastern Studies Department, Harvard University.

"we must also fully realize that our ancient cultural heritage is the fruit of the genius and the creative labour of the Chinese people, and that many of our contributions to culture are worth preserving and developing . . . . If only we could enlarge the scope of our studies in Chinese medicine, rediscover the hidden treasures in our ancient science and art of healing, and make them available to the people, great achievements could result" (131).

The CMA, "upon repeated instructions from the Central Committee of the Party" underwent a change in attitude and established a "Committee for Exchange of Experience" between traditional style and Western-trained doctors, increased research into traditional medicine, and opened its doors to traditional practitioners (132), who by 1958 had reached a membership of only about 3000 of a total of 18,500 (133).

The stress on the intrinsic value of traditional medicine was greatly increased at the time of the Great Leap Forward and was reinforced by the general line that the people through self-reliance (and thus local remedies) could do far better than the experts. The CCP, after receiving a report from the Leading Party Members' Group of the Ministry of Public Health, issued a directive that described Chinese medicine and pharmacology as "a summary of the experience accumulated by the people of our country in thousands of years of struggle against disease. It contains the rich experiences and theoretical knowledge of the Chinese people in combating disease. It is a great treasury which must be continually drawn on and enriched by every effort" (134). At the same time those who had not implemented the policy line were described as advocates of "the bourgeois nihilistic ideology of rejecting all national heritages" (135). Unity among medical workers, development of the medical heritage, and synthesis of a new school of medicine had become "all-important tasks" in health work (136). The CCP instructed that training classes should be established wherever conditions permitted for doctors trained along Western lines to study Chinese traditional medicine, and later traditional medicine was introduced into all medical courses (137).

A Western-trained doctor (left) *and a veteran doctor of traditional Chinese medicine* (right) *work together to treat a patient with acute abdominal disease.*



The reasons for this new stress on the value of the national medicine were of course complex. Cultural pride in things Chinese undoubtedly played some part: the revival was accomplished by a similar phenomenon in other fields such as architecture, painting, and theatre as the beginnings of the "Chinese in form, socialist in content" cultural policy. There has been speculation also that the timing of its introduction may have been linked to the fall of the most openly Russian-oriented faction of the Party (138). At least equally important in the campaign against the health administration leaders were probably questions of ideology, of Party leadership, and of control by cadres, both Red and expert, rather than by "experts." The Party had laid down a policy but it had been ignored by the University-educated "experts" both outside and within the Party's ranks (at the same time there was some general criticism for insufficient attention to the mass line) and it was time for the political objectives to be remembered and pursued. From this viewpoint, the elevation of traditional medicine might be regarded as an important weapon with which to challenge the claim of the medical establishment, on the basis of its monopoly of Western medical expertise, to the right to conduct health services in their own way.

However, there is also the simple fact that the original policy of tapping traditional practitioners as a supply of much needed medical personnel had not worked and that the medical personnel were still badly needed. The policy was unlikely to work until the status of traditional practitioners had been raised (hence one of the reasons for allocating some of the scarce time of Western-trained medical personnel to the study of traditional medicine). Until other medical workers accepted the usefulness of traditional medicine the large numbers of traditional practitioners could not be effectively used. The theme that the Chinese practitioners, with some retraining where possible, constituted a needed resource to "swell the ranks" of medical workers at the basic level continued as an important element of the line favouring traditional medicine. Even the much-quoted 1959 *People's Daily* editorial ("Earnest Implementation of the Party's Policy on Traditional Medicine") reproduced the 1944 Mao quotation set out earlier in this chapter, and noted that the people's needs cannot be met "by relying on Western style doctors alone"; hence the need for uniting the traditional workers. (It also noted that "we should not require all Western style doctors unconditionally to study traditional medicine. This would add more difficulties to their already heavy burden of work" (139).)

As part of the campaign, additional traditional doctors were trained. New schools of traditional medicine were opened and the "disciple" or apprenticeship system of training by individual practitioners was reintroduced (140). In 1958, 3200 college students in colleges and 52,000 apprentices were undergoing training (141). Although this is evidence of the seriousness of the belief in the value of traditional medicine (and of course parts of it have now been accepted as valuable even in the West), it should not necessarily be regarded as a misdirection of resources even if one were sceptical of the value of much of what was taught. It has to be remembered that the choice was still seen at that time as between university- or college-trained health workers and the traditional variety: the newly trained traditional practitioner may not have been as useful but he still could spread some knowledge of hygiene, cure simple diseases, and provide much supportive therapy. His training was far cheaper than that of the Western-style worker and he required far less expensive equipment and fewer imported drugs. In fact his training may be regarded as a step forward in one of the two paths that led to the production of "barefoot doctors." (It is worth noting that in the late 1960s the number of students of traditional medicine had not increased.)

Quite apart from the contribution made by their sheer numbers as basic level medical workers, traditional practitioners also began to make a genuine contribution at all levels to medical care. They were in any case the practitioners most trusted by the people, and the value of Western-trained practitioners in the countryside without

expensive support equipment may not be very great. However, in addition, the impact of the ideological campaign was such that Western-trained doctors began genuinely to accept the traditional practitioners as colleagues. The number of united clinics in which both types of doctors practiced together rose rapidly (142) and this combination appears to have been much more successful where united clinics were replaced by a new institution, the commune-run Public and Rural Health Centre. This provided a choice of practitioner but encouraged integration; the more difficult cases were likely to be seen by both types of doctors and to be treated by a synthesis of the two types of medicine.[7] As far as hospitals were concerned, as reported by doctors leaving the PRC in the early 1960s, over a period of years competition between the two groups diminished and was replaced by mutual cooperation and decision-making in hospital care of patients. Patients were transferred to the care of traditional practitioners not only if they were terminal cases, as had previously been the practice, but also in a number of other conditions.[8]

Traditional Remedies

One further aspect of the revival of Chinese medicine should briefly be mentioned, and that is the attention given not only to traditional practitioners but also to traditional remedies used by them, in particular herbs of various kinds. It is obviously far cheaper to use effective herbal remedies (which the people can grow in their own regions and the opportunity cost of which is minimal) than modern drugs that, in the early years at least, had to be imported. Thus intensive research was carried on into the efficacy of these herbal remedies and a number of useful ones were discovered. Even when herbal remedies were not very effective, or provided only psychological relief, they were of considerable importance as they still provided the peasant with some support, whereas if it had been decided that only modern drugs should be used, he would have had none at all as expense would have placed any drug therapy out of reach. The use of herbs for the purpose of psychological support — though not explicitly admitted in the Chinese press — is not much different from the wide variety of placebos offered to patients daily in industrialized countries.

Medicinal herbs had a ready acceptance among the people and obviously the Chinese authorities believed they were serving a useful purpose as they issued instructions concerning the growth and marketing of medicinal herbs (144) and were sufficiently concerned when shortages developed during the Great Leap Forward to issue detailed directives to prevent further diversion of these crops for industrial uses (145). Western medicines are now widely produced in China but the stress continues on using the cheapest possible effective treatment and in particular locally grown medicinal herbs.

The achievements of peasants in becoming self-sufficient in these medicinal herbs are widely publicized as an example to others. Thus Kiangsi radio reported that

"a mass movement of using Chinese medicinal herbs to prevent and treat diseases has developed widely in the province. Many communes and production brigades have established their own indigenous pharmacies, using indigenous treatment methods, prescriptions and medicines. By collecting, planting, cultivating and processing medicinal herbs and carrying out technical improvements through their own efforts, these communes and production brigades have produced many new medicines which can prevent and cure a number of diseases. They have done so by combining Western and Chinese medical sciences. By using local supplies as raw materials and processing them locally, they have produced most of these medicines at low cost. These medicines have proved to be highly effective and have contributed to the consolidation and improvement of the collective medical service, marking a gradual change from the situation when medical service and medical supplies were lacking in the countryside" (146).

---

[7]For a rather rosy picture of the rural health centre, see Worth (143).
[8]See footnote 6.

Herbal anaesthetic is applied to a patient prior to an operation.

Present Status of Traditional Medicine in the PRC

It would be incorrect to leave the impression that the problems of unity between these two types of medicine had been completely solved. There was some slipping back toward professional elitism from 1960 to 1965 and the Cultural Revolution brought renewed emphasis on the simple folk aspects of traditional medicine (147). The Chinese authorities also continue to criticize on occasion the "crimes committed by Liu Shao-chi and his agents . . . to undermine the task of combining Western and Chinese medicine" (148) and "the evil influence of Liu Shao-chi's counter-revolutionary revisionist line of attaching great importance to Western medicine while despising indigenous medicine" (149). However, it is clear that integration between the two types of medicine is in many areas being successfully carried out (e.g., the spectacular success of acupuncture in combination with modern surgery and more modest advances such as combined modern and traditional treatment for schistosomiasis, and the use in fracture cases of X-rays for diagnoses and willow-splinting for treatment).

The place now given to traditional practitioners themselves is less clear (150). Although articles about traditional medicine and the need to protect it continue to appear, far less attention is now given to its practitioners. They have now probably fulfilled their interim function of swelling the ranks of medical personnel.

But less attention is being given to them also because the preoccupation with doctors and with medical *experts,* whether traditional or modern, as the central figures in mass medical care delivery has now been at least partially overcome. By a slow and painful process the prime focus of attention in solving the problem of medical workers for rural areas has now moved to the evolution of new types of health workers and institutions and this is the subject matter of the next chapter.

Doctors of a medical team from Shanghai check the health of a mother and her child in a settlement of the Ulunchun people on the northeast border of Heilungkiang Province.

Chapter 4

The Rural Health Network: Innovations in Organization and Health Worker Roles

Developments Before 1965

Despite a degree of success in expanding the medical network by the use of traditional practitioners there was still in 1965 a severe shortage of medical facilities in the rural areas of China. The model created provided for the needs of environmental and preventive medicine to be met by patriotic health campaigns but this still left a major gap in curative and other services for the more than 500 million people in the countryside.

As has already been suggested, policy toward the provision of rural medical services had undergone a number of fluctuations between 1949 and 1965. The initial aim was to establish in each of the 2000 or so counties a conventional hospital as the centre of rural medical activities for the 300,000 or so inhabitants. This was achieved by 1958, but even then there were only 440,000 hospital beds in all of China (151) and these did not extend below the county centre. Individual medical practice was still largely on a private fee for service basis and as even traditional practitioners were concentrated in the larger county towns, most villagers still had no immediate access to medical care. A day's journey to a county centre often led to perfunctory or unsatisfactory treatment in a crowded outpatients' clinic (152).

During the Great Leap Forward in 1958 an attempt was made to change this approach. The administrative centre of the rural medical program was to be shifted from the county hospital to the newly formed communes. As the basic social, political, and economic unit of the countryside, the commune was also to be responsible for the medical care of its members. The commune was to train health workers for the production brigades below it, bear the medical expenses of its members, and establish a communal hospital. Expenses were to be met from funds raised internally under the collective medical care system, the forerunner in some respects of the cooperative medical system discussed below.

The unreliability of statistical reporting during the Great Leap Forward makes it difficult to assess how much progress communes actually made in implementing this program, but there can be little doubt that they ran into very severe problems. In 1960, partly as a reaction to these problems, the policies were reversed and central control was gradually reimposed over rural health and medical programs. In the general retreat from Great Leap policies, while the length of training in conventional medical schools was increased, most of the commune training courses and medical collectives and many of the commune clinics closed down (153). The Ministry of Public Health returned to policies with an emphasis on high medical standards and on county hospitals as the core of rural health activities. Hsü Yun-pei, a Vice-Minister of Public Health, wrote in the *Chinese Medical Journal* "steadily increase the number of highly qualified medical workers, expand basic constructions and increase equipment and facilities, thereby enabling the county level hospitals to assume the role of centres of medical technology and bases for training health cadres" (154).

The results of the problems created by the Great Leap Forward and the subsequent change in line (it is hard to determine what weight should be given to local problems and what to central direction) were set out rather dramatically in the *Red Flag*:

"In August 1961, the agents of China's Kruschev on Shanghai's medical front, who unscrupulously pushed a counter-revolutionary revisionist line in medical and public health work, made a sinister report viciously smearing the health workers in production brigades and ordered them to drop medical work. This new-type public health force created in the period of the Great Leap Forward in the rural areas was thus destroyed, reducing the number of health workers from more than 3,400 to just over 300" (155).

There may have been some slight improvement in the rural areas during the socialist education movement during 1963–64, but the Ministry of Public Health apparently continued to follow a basically conventional approach to curative medicine in slowly building up the numbers of university-trained doctors and expecting the benefits gradually to extend to the rural areas. This phase was later described in the *People's Daily* in the following terms:

"Big renegade Liu Shao-ch'i and his accomplices pushed through a counterrevolutionary revisionist line in health work to gratify the aggressive designs of the wolves for capitalist restoration. They devoted a lot of manpower and material resources to the study of rare and difficult diseases, but seldom discussed ways to prevent and treat some common and recurrent diseases that are found everywhere. Under the pernicious influence of Liu Shao-ch'i's counterrevolutionary revisionist line in health work, some medical personnel went astray by paying great attention to medical treatment and modern therapy but little attention to prevention and indigenous therapy and going after the bourgeoisie to seek fame and gain . . ." (156).

Mao's June 1965 Directive

A radical redirection of policies was initiated by Mao's statement of 26 June 1965 in which he set out his objections to current policies:

"Tell the Ministry of Public Health that it only works for 15 percent of the entire population. Furthermore, this 15 percent is made up mostly of the privileged. The broad ranks of the peasants cannot obtain medical treatment and also do not receive medicine. The Public Health Ministry is not a people's ministry. It should be called the Urban Public Health Ministry or, the Public Health Ministry of the privileged or even, the Urban Public Health Ministry of the privileged.

"Medical education must be reformed. It is basically useless to study so much. How many years did Hua T'o (a third century physician) study? How many years did Li Shih-chen of the Ming dynasty study? Medical education does not require senior middle school students, junior middle school students or graduates of senior elementary school. Three years are enough. The important thing is that they study while practicing. This way doctors sent to the countryside will not overrate their own abilities, and they will be better than those doctors who have been cheating the people and better than the witch doctors. In addition, the villages can afford to support them. The more a person studies, the more foolish he becomes. At the present time the system of examination and treatment used in the medical schools is not at all suitable for the countryside. Our method of training doctors is for the cities, even though China has more than 500 million peasants.

"A vast amount of manpower and materials have been diverted from mass work and are being expended in carrying out research on the high-level, complex, and difficult diseases, the so-called pinnacles of medicine. As for the frequently occurring illnesses, the widespread sicknesses, the commonly existing diseases, we pay no heed or very slight heed to their prevention or to finding improved methods of treatment. It is not that we should ignore the

pinnacles. It is only that we should devote less men and materials in that direction and devote a greater amount of men and materials to solving the urgent problems of the masses.

"We should keep in the cities those doctors who have been out of school for a year or two and those who are lacking in ability. The remainder should be sent to the countryside. By the year xx, the four clearances were taken care of and basically concluded. But medical treatment and public health work in the countryside was not concluded! In medicine and health, put the stress on the rural areas!" (157).

Mao's Directive was followed by a national conference and then a number of provincial meetings sponsored by the Ministry of Public Health to discuss rural medical education. The national conference decided to revive the idea of training large numbers of part-farmers–part-doctors as the key figures in the rural medical network. The basic organizational plan for rural medical work was laid down at that time:

"A rural medical force should be created to provide every production team with trained health personnel who continue to do farm work; and every production brigade with trained medical personnel who are practitioners part time and do physical work; and every commune with a staff of doctors graduated from medical colleges or advanced classes after secondary education, together with experienced doctors from city hospitals" (158).

A plan for a new comprehensive personal medical care network thus emerged in the rural areas. The communes, through cooperative schemes, provide basic medical services for their members. The basic medical work force, the barefoot doctors, practice (part-time) at the level of production brigade, each of which has some form of health station. In one commune 80% of cases are said to have been dealt with at this level. Treatment at this level also saves a great deal of labour time, which would have been spent in peasants travelling to clinics. Those cases that do require further laboratory or radiological tests or surgery that cannot be dealt with at brigade level are referred to the commune clinic. This is staffed, according to the plan, at least, by up to 20 or 25 full-time personnel, including some who have medical college training, who direct preventive as well as curative work, but clearly many rural communities do not yet have college-trained staff or much complex equipment. The salaries of the clinic's staff are paid out of commune funds, but the clinic, in some instances at least, does apparently receive a subsidy from the central government (159, 160). Those cases that cannot be treated at the commune clinic are referred to the county hospital. One commune clinic reported that of 370 inpatients treated, it had to refer only three to hospital (161). This screening process of common diseases is a means of ensuring that scarce highly trained medical personnel are reserved for complicated cases — rationing was thus to be changed from a basis of status or geography (living in the city) to a basis of need.

The role of the central government was thus firstly to provide certain inputs to the lower levels — in particular in research and in the training in colleges of medical personnel to be sent out from the centre in mobile medical units to train lower level health workers, and in the provision of Western medicines for those illnesses for which traditional treatment was inadequate. Secondly, the central government was to provide curative services for those cases that could not be dealt with at a rural level.

Implications of Mao's Directive and the New System

Mao's 1965 Directive was an admission of at least partial failure in the provision of medical services to the peasants. It heralded a major change of approach with two broad institutional and economic implications:

(*a*) Institutionally it implied a recognition of the inability of the medical profession — both in terms of attitudes and of numbers — to solve the problems of rural areas, and a decision largely to bypass the profession in establishing a new medical organization;

(*b*) From an economic viewpoint the new organization would be low cost and more suited to low income countries — but it still would not be costless in resource terms. Rather than draw further on central funds, the organization was designed, as far as possible, to be financed by the labour "surplus" in agriculture.

The inappropriateness of the training, technology, and attitude of the university-trained doctor to health planning in developing countries and to work in poor rural areas has already been referred to in the opening chapter.

Conventional medical training gives high priority to accuracy of diagnosis (confirmed by expensive laboratory tests) and precision of treatment. Emphasis is placed not on common diseases (which are not, by and large, common in teaching hospitals) but on "interesting" and challenging case material. Medical advance is often synonymous with more sophisticated techniques and greater and greater specialization. The medical profession is highly conscious of medical technology and highest status is usually given to the surgeon or physician working with the more advanced techniques. Public health is not held in high repute as a specialization.[9] Finally, of course, years of training in an academic environment in the company of professional colleagues establish in the medical profession a particular system of societal values often at variance with the rest of the community. As one writer has put it, "the health care system generically poses a threat to societal integration because, although its output is essential for the larger society, the internal criteria whereby the health system operates are based on technical expertise and a "private" knowledge that society is ill-equipped to evaluate. Thus, it is always possible that hierarchies of social privilege (based on technical skill and professional eminence) may develop out of this private knowledge and achieve a state of viability that presents a threat to social control" (163).

As a result, in health sector planning (an administrative field that is usually dominated by doctors and in which priorities are usually laid down by doctors), there is a strong tendency even in developing countries to conform to the norms of the profession rather than to the needs of the society in which it is working, and to devote scarce resources to sophisticated hospitals and medical schools, advanced equipment, and expensive research. This trend is accentuated by the "demonstration effect" of the direction (or misdirection) of medical effort in industrialized countries, and a tendency to believe that the use of different techniques in developing countries is inferior medicine.

In planning medical training, there is of course a strong bias for the profession to perpetuate itself and maintain its monopoly of control over medical tasks. Thus the bulk of resources tends to go to university medical schools. Some funds are spent on paraprofessionals and other assistants (though the shortage of these is also very great in many developing countries) but these are generally people working under the supervision of doctors. There is a very considerable resistance, on the grounds of lowered standards, to the training of nonprofessionals who would have direct responsibility for carrying out tasks that were previously the preserve of professionals.

The resistance of doctors trained in this tradition to transferring to rural areas, and their inability to cope if they do transfer, have also been referred to in the opening chapter of this work. This resistance was clearly manifested after Mao's Directive. A dispute took place over the numbers and quality of medical personnel to be transferred to rural areas. Liu and Ch'ien are said to have reached a compromise that a third, not a half as Mao had directed, of urban medical personnel would be sent into the countryside and instead of being the best doctors, it was claimed that they were

[9]The Chairman of the WHO Executive Board found it necessary to warn a medical audience of the hopelessness of the situation in developing countries "unless Public Health doctors can gain universal acknowledgement and be equals in status of their colleagues in other specialities" (162).

nurses and medical assistants (164). The mobile medical teams also, initially at least, were not a complete success (165). The technical problems involved were described in a *People's Daily* article on 24 August 1968, which recounted that when members of rural teams consulted their texts they were referred to treatments that required X rays, microscopes, laboratories, and germfree rooms, and remedies that called for penicillin, aureomycin, and vitamins, and found that they had learned "things which are of no use to us once we leave the city" (166). The human problems were dealt with in a *Red Flag* article in December 1973, which declared: "For urban medical workers, going down to the countryside is a deep-going ideological revolution . . . some medical workers still face two ideological obstacles. First they fear filthy, difficult and fatiguing work; second, they fear that they may not learn anything in the countryside and may even forget their skills. These ideas are incorrect . . ." (167).

Thus the Chinese came to recognize the problems posed by basing their medical system on the university-trained doctors. The Revolutionary Committee of the Shanghai First Medical College roundly condemned "the decayed system and time-worn methods copied from capitalist and revisionist countries . . . under the domination of bourgeois intellectuals, students concentrated all their energy on the treatment of 'rare diseases and difficult cases' and were oblivious of the commonly-seen diseases that most affect the working people. To make a clinical diagnosis, the three routine examinations of blood, urine and feces were invariably performed. Thus the patient always had a large bill for laboratory examinations. In addition, huge amounts of antibiotics were unnecessarily prescribed. When in the countryside, in the absence of laboratory facilities, doctors so trained could only explain the mechanism of the disease and the principles of treatment to the patient and do little else . . ." (168).

Although continuing (and apparently eventually somewhat more successful) efforts were made to get doctors into the countryside, and the curriculum in medical colleges was shortened to 3 years and revised so as to combine theoretical study with practice in the communes (169), health service in rural areas was now to be provided by training an entirely new type of worker. (Indeed the number of medical colleges has apparently been reduced by half (170).) Particular Party and health officials have by no means been consistent in holding to one line or another, and there has been considerable ex post facto justification. This particular change in line coincided with the disappearance from public view from the end of 1966 of a number of ministers and officials of the Ministry of Public Health (171).

The barefoot doctor, whose training and role is described below, is not the conventional type of health worker trained to assist doctors, but represents the development of a new role around which the delivery of medical services is organized. He is of the countryside and his training is carried out there so there is little difficulty in getting him to remain or go back. He is trained from the beginning in simple techniques and technologies suitable for rural areas and so there are no problems of adjustment.

As outlined in the opening chapter, many of the tasks traditionally carried out by doctors can be equally, if not better, performed by other workers with specific skills or trained in the problems of particular diseases. The principle on which a system of this type is based is that it is better to provide mass medical care that is competent for 90% of diseases and results in a certain percentage of errors than to provide highly accurate medical care only to a very small percentage of the population. Thus the resources previously devoted with little effect to the reorientation of the medical profession are now devoted to the establishment of a new medical work force.

The full weight of propaganda is used to bolster the establishment of a new set of medical practices not determined by the profession. The repeated references to Mao's thoughts in guiding the work of barefoot doctors undermines the authority of the medical hierarchy, and political ideology becomes as important as professional expertise in diagnosis and treatment. The need to be both Red and expert, being propagated now to a more receptive target group, means that providing health care is

Barefoot doctors bring decoctions (liquid preparations made by boiling medicinal plants with water) to field workers as a preventive measure against seasonal disease.

not just a matter of clinical skill but also of sociopolitical awareness of the patients' needs. "Putting professional work in command" and neglecting politics is of course regarded as an error in all spheres of activity in China. In the medical sphere it appears to have been a particularly persistent one (172) and the cause of constant reminders that "the relationship between politics and vocational work is one between the commander and the commanded, and under no circumstances must the relationship be severed" (173). The new health work force and Mao's ideological principles thus reinforce one another to overcome the monopoly of the profession over medical care (174).

As part of this breakdown of professional control, there is no licensing system for medical practice. Roles in the health system are assigned more on the basis of demonstrated skill than on the basis of the length of training or experience or the possession of a specific license or credential. (This is a system that probably could work only in a society such as China where community standards and ethics govern personal behaviour far more than do legal requirements.) At the same time a policy of reducing salary differentials among medical workers has been introduced with those at the top frozen until the lower ones rise to meet them (175).

From an economic viewpoint the barefoot doctor solution was also a low-cost solution — in terms of the resource cost of training each of the doctors, of supplying him with basic equipment, and of encouraging him to grow his own medicinal herbs and use them as often as practicable in preference to manufactured drugs. The health stations also were built by the peasants out of local materials. Nevertheless, with over a million such health workers now trained, the total resource cost was considerable, and the drain on the central budget could have been large.

As with the mass line, however (see p. 15), the resources were mobilized at least in part by taking advantage of the surplus labour in the countryside. Assuming a low marginal productivity of labour in rural areas, especially in the slack season when most of the training and medical work is carried out, the real opportunity cost to the

nation of the new medical service (i.e., the loss in output that would otherwise have been produced) is probably small. Certainly it is far smaller than the training of a medical work force one-tenth the size in conventional manner with its drain on trained manpower, sophisticated technical equipment, and other factors in short supply.

Furthermore these resources were mobilized directly in the rural areas. There was no additional strain on the central budget, and financial responsibility for the system was shifted to the communes and brigades through the cooperative medical system. Production brigade members could see for themselves what benefit they were getting from the new system and decide for themselves how many of their workers they should assign to this work, what work points they should be allotted, and how much land should be given over to medicinal herbs. They could see the benefits and the effects on production. With this organizational innovation and in the organization of the patriotic health campaign, the PRC set about to try to achieve the support of the people to take advantage of surplus labour in the countryside directly to increase output — in this case the output of health services.

Barefoot Doctors

The barefoot doctor, as has been emphasized, is not a paramedical or doctors' auxiliary, working under supervision. Part-time worker, part-time doctor, he or she is trained to diagnose and treat without assistance the common or recurrent diseases peculiar to the region in which he works.

The training program of barefoot doctors varies from area to area, but it follows basic guidelines laid down by the Ministry of Public Health (see Chang Kai (176)). Young people in the communes with junior or middle school education are chosen by their fellow peasants to attend, over a period of 2–3 years, work–study medical schools sponsored by commune clinics, county hospitals, or mobile medical teams. The specific contents of training courses are determined by local health conditions and disease patterns.

They study full time during the slack season and return to their brigades during the busy months to work in the fields. After the first training period, they begin practicing under the guidance of commune clinics and mobile teams to gain practical experience.[10] Constant practice is an essential part of their training. In a commune visited by Joshua Horn, an English doctor who served on a mobile medical team in Hopei, first-year barefoot doctors learned to prescribe 40 drugs and to use 50 acupuncture points for common local diseases (178).

When barefoot doctors return for the second and third training periods, they are expected to have mastered the basic techniques through practice. The later courses present a more systematic study of human organs and their diseases and treatment. By the end of 2 or 3 years training, a barefoot doctor is expected to at least be able to treat about 100 diseases, apply 30 clinical techniques such as blood transfusion and acupuncture, and prescribe 80–90 kinds of Chinese and Western medicines (179).

In actual practice, he is strongly encouraged to exercise initiative in going beyond what he has learned. Before referring a case to higher levels, he is urged to make every attempt to solve the problem himself whether or not the necessary skills were included in his training.

In addition to medical treatment, the barefoot doctor is responsible for vaccination programs, compiling medical histories, health campaigns, and sanitation

[10]For one account of the work done by mobile teams in such training see reference 177.

work. He also trains a health worker for each production team under his brigade to assist him.[11]

To maintain his supplies of certain medicines, he must collect medicinal herbs and promote the planting of herbs around the village. Because of the limited finances of the commune he is constantly urged to economize and there has been continuing emphasis on developing inexpensive medicines and portable apparatus (see reference 180 for examples). As the *People's Daily* said of the barefoot doctors, "They would not use medicine to cure an illness which could be cured with ordinary medicines; they would not use Western medicines to cure an illness which could be cured with traditional Chinese medicinal herbs" (181).

On top of these health duties, he is expected, of course, to participate in agricultural work. Indeed at times of planting and harvest nearly all his time is spent in farm work.

Up to 1966, a barefoot doctor received a fixed salary, which was usually higher than the wages of a farmer. During the Cultural Revolution, he was first urged to accept half his salary in work points earned in the field and half as a fixed payment. A well-off brigade in Shanghai paid its barefoot doctor 300 yuan for a year's work: 100 yuan from agricultural work points and 200 yuan for his medical services. A poorer brigade paid its barefoot doctor about 200 yuan: 54 yuan from work points, 92 yuan for medical services, and a 61 yuan subsidy (182).

From 1968, the barefoot doctor was urged to put his salary completely on the work-point system (183). He was then assessed a fixed number of work points for each day of work. This usually meant a lower salary for the barefoot doctor (about the same as that for other peasants), thus decreasing the cost of medical services to the brigade (184).

It is not easy to assess the clinical standards of barefoot doctors or their acceptability to their patients. Chinese publications, however, continually chronicle their clinical successes, and Sidel has commented on the very complete knowledge barefoot doctors had of the indications and side-effects of the drugs they carried with them (185); other observers have also commented on the quality of their work.

On the other hand, it is difficult to escape the suspicion that one motive at least of the many articles in the press extolling the achievements of barefoot doctors (usually contrasting the suffering and disease of pre-Liberation days with the successful cures carried out at low cost with traditional medicines by barefoot doctors today) is to increase their acceptability to the populace. It is also clear that barefoot doctors have not been without their critics even within China and "class enemies" have been blamed in the press for vilifying the barefoot doctors as "incapable of curing illnesses and insignificant" (186). Furthermore there are now reports of overcrowding in some county hospitals attributed to a reluctance by peasants to consult barefoot doctors (187).

However, whatever deficiencies have arisen in the scheme's first few years it does provide medical care for the peasants where none existed before. Furthermore, any debate over quality versus quantity in rural medical care has to take into account the questionable effectiveness of the academically trained doctor because of his difficulties in communication and lack of awareness of the patients' social conditions. The "status gap" has proved a very great barrier in the provision of medical care and even in the U.S. better health results have been obtained in Mexican–American communities by employing agricultural workers after a short period of training as health

[11]These health workers in each production team are the lowest level of medical personnel in the countryside. Their role and duties are not clearly defined beyond giving assistance to barefoot doctors above them. They are trained and supervised by barefoot doctors primarily to help promote sanitation measures and health campaigns. In some instances they may help give injections, make house inspections, gather herbs, and give first aid as well as being responsible, under the supervision of the barefoot doctor, for the proper collection and treatment of human faeces for use as fertilizer. Health workers have no special status. They are voluntary workers who receive no compensation and are expected to work full time on agricultural production.

leaders than by employing professionals (188). It is the essence of barefoot doctors that they remain part of the peasant community and they may therefore at times more easily understand the medical complaints of their fellows and the appropriate treatment. "Barefoot doctors come from among the poor and lower middle peasants and they are fine seedlings with strong roots. But if they are not vigilant against the inroads of bourgeois ideology they also may take the 'three-divorce' road. In order that they can always preserve the natural colour of the labouring people, the barefoot doctors must participate in collective productive labour and maintain close ties with the poor and lower middle peasants . . . . The poor and lower middle peasants warmly praise them as "good doctors who are not divorced from manual labour physically or from the masses mentally" (189).

New health worker roles have also developed in the city, including the "worker doctor" and the "Red Guard Doctor." The worker doctor's training is apparently much shorter than that of a barefoot doctor and continued on-the-job supervision and training in the factory health clinic are more important. His work is mainly in health education and prevention but he also treats simple ailments on the shop floor. The Red Guard doctor works in conjunction with a lane health centre and lives in the neighbourhood that it serves. She is usually a housewife who is unpaid for her services. After an initial period of about 10 days training she works closely with the medical personnel in carrying out preventive work in her neighbourhood and disseminating birth control information (190). These Red Guard doctors are sometimes described as the counterpart of the barefoot doctor but in fact they resemble more closely the conventional type of paramedical worker and they do not carry out diagnosis and treatment of a range of diseases.

Cooperative Medical Schemes

The medical services described above are financed by cooperative medical funds established either at the brigade or commune level.[12] One common method of payment is that each commune member pays an annual fee (usually 1 or 2 yuan[13]), the production team pays a further more or less matching sum, in proportion to the number of its members, out of its cooperative welfare fund, and the brigade contributes a fixed sum. At Ch'unhsing in Kwangtung the brigade contributed 2000 yuan while the production teams and their members contributed 6000 yuan (191). At the Sun People's Commune each member pays 2 yuan to the brigade health station, and from its public welfare fund the brigade pays 0.7 yuan per person to the commune clinic (192).

In return, commune members (who, under the private practice system, had to pay 3–5 yuan for a consultation and much larger sums for hospitalization when they could afford and obtain it) can receive treatment and medicine at the brigade health station and commune clinic either free or for a small registration fee. In many communes patients appear to pay a fee, such as 5 fen, for each treatment with medicine provided free. It does appear, however, that members with major illnesses costing over 100 yuan have to pay a higher proportion (40 or 50%) themselves unless the brigade decides to give them special consideration (193). At the Sun People's Commune, when brigade members need treatment at the county hospital the brigade

---

[12]The *People's Daily* in January 1969 conducted a readers' forum as to whether the commune or the production brigade should be the controlling unit for medical funds. (Some of the contributions are reproduced in *Survey of Chinese Mainland Magazines*, Vol. 872, p. 31–43.) The question appeared to be one of democratic management and direct involvement at brigade level versus the economy scale at commune level and the financial difficulties of poorer brigades running separate schemes. No doubt the reluctance of richer brigades to subsidize poorer ones was also a factor.

[13]1 yuan (100 fen) = ca. Can. $0.53.

pays 80% of the cost (194). With the absence of fee for service, the desire to keep the costs of the scheme to a minimum is also a major inducement to medical personnel and commune members alike to give heed to preventive measures.

Although this cooperative scheme does bring medical care within the reach of most peasants, it has not been without its financial difficulties. There are numerous accounts of brigades running up large deficits — usually because of poor management or "overuse" of expensive Western medicines. These errors were rectified by switching to medicinal herbs. The Medical Centre of Mafang brigade in Shensi recounted how it spent the entire fund of 690 yuan in 6 months on antibiotics and sulfa drugs before switching to medicinal herbs (195). "The cooperative medical service stations run by various brigades in Huangsungyu commune, P'ingku *hsien*, had a deficit of more than 2,400 *yuan* in 1971 because they did not use herbal medicine on a large scale. In 1972, drawing on this lesson, they fully aroused the masses to gather and plant more than 6,000 catties of medicinal herbs of various kinds and generally adopted the new acupuncture method. They not only made good the loss of the preceding year, but also saved more than 4,200 *yuan*. This is not an isolated case" (196).

It must be conceded also that there are doubts by some that this decentralized model of medical care can work. Thus, on the basis of reports that some commune facilities have closed and others have had to be subsidized from central budgets one commentator has argued that "because all financing of communal health care is supposed to come from the agricultural base, in bad years the funds available for rural health programs contract . . . rural agricultural production, especially in times of inclement weather, is often too near the subsistence level to provide sufficient discretionary income to maintain locally supported health programs" (197). This view is of course in direct opposition to the belief on which the cooperative system is based, namely that it is possible to operate a health service by directly mobilizing the agricultural labour surplus even in a subsistence economy, and appears to ignore this economic rationale. So far reports of failures do not appear to be larger in number than would be expected in a program of this size; the plan is clearly still in operation and visitors to China continue to be impressed by improvements in health in the rural areas.

Worker-physicians daub a layer of protective traditional medicine on painters to alleviate dermatitis caused by contact with paint.

The difficulties that certain communes have had would seem, however, to be an inevitable by-product of the devolution of decision-making that this system allows. Within the broad guidelines discussed above, each city or province appears to be able to make its own decisions about the nature of the training of health personnel and the ways in which these are used (198). Health programs are not directed at a local level by the representative of a district central ministry; instead local participation is a feature of most health activities, with each community taking responsibility for the manner in which particular programs are to be implemented in the light of the conditions in their own areas.

Thus, within a highly centralized ideological system a graduated health care structure has been designed that allows for the evolution at each level of health worker roles and health programs suited to particular needs as determined by the political unit at that level.

Chinese journals continue to be full of articles praising (or perhaps, defending) the cooperative medical service and enumerating its advantages. It is probably helpful to conclude this chapter with such an enumeration from the Changwei Administrative Region Revolutionary Commitee, Shantung, setting out the advantages as the Chinese Administrators see them:

1. Patients can receive timely treatment near home. Barefoot doctors, who are themselves a new-type medical and health force which emerged during the Great Proletarian Cultural Revolution, routinely attend patients at their homes — immediately in acute cases and regularly in chronic cases.
2. It helps to implement the policy of prevention first, to improve rural sanitation and reduce the incidence of disease.
3. It is a great economy for commune members. Patients with minor diseases are treated free of charge at the cooperative medical stations. Serious cases that cannot be handled locally are referred to commune or other higher level hospitals for treatment, with all expenses (except food) charged to the cooperative medical fund.
4. It saves much sick leave and promotes agricultural production. Before the founding of cooperative medical service, a patient had to travel a long way to see a doctor, often accompanied by others. Such waste of labour power is now eliminated.
5. Since barefoot doctors often use herb drugs and collect folk remedies to cure and prevent disease and continually sum up their experience in the course of practice, they play a significant role in exploring the treasury of traditional Chinese medicine.
6. It helps promote family planning and mother and child care.
7. It spurs on the commune hospitals to continuously improve their curative and preventive work and their service to the poor and lower-middle peasants. (199).

City medical workers from Tientsin regularly visit the surrounding mountain villages to administer health care.

Chapter 5

Summary: Applicability of the Model in Other Countries

The Chinese model of medical services described here has a number of striking features. The first is the manner in which health education and health work are integrated into the political and social culture of the nation. The direction of health activities is not left to health workers; these activities are coordinated with other national development programs, such as education and agriculture, and made an essential part of the overall priorities of the party and government. Health work is understood as a political activity. The second feature is the explicit link that is continually made between health care and increased production and economic development — not only in the rationale that improved health leads to increased output but also in the planning of the system itself so that health activities are carried on in such a way as to fit in as closely as possible with productive tasks.

The third is the manner in which Chairman Mao's oft-quoted question "For whom?" has been answered by redirecting resources to the rural areas where most of the people live and to the common diseases, often neglected by medical scientists. The fourth has been the use of the mass line — a mobilization of the very large labour force to carry out preventive and environmental health tasks — in economic terms, a recognition that factor price ratios (with capital and skilled labour relatively scarce) are different from those in industrialized countries, and in organizational terms a highly innovative attempt to involve the population in public health tasks.

The fifth feature is the breakup of the monopoly of the medical profession over health tasks and the remoulding of the health work force using new role models specifically designed for the medical problems of the majority of the people. The members of this health work force are recruited from the areas in which they will serve and are thus prepared to work in the countryside and able to understand its people. The sixth is the decentralization of much of the policymaking so that these new roles and programs are suited to the very different conditions prevailing in different parts of the country.

In view of the lack of vital statistics in relation to large areas of the country, an attempt has been made to approach what is happening in China with some caution. The concrete achievements that have accompanied these bold and novel approaches to health care, however, are considerable. They include spectacular successes embracing preventive medicine, clinical medicine, and surgery, and basic science, such as elimination of venereal disease; considerable reduction of schistosomiasis; acupunctural anaesthetic; reattachment of severed limbs; advances with treatment of severe burns; and the first synthesis of biologically active protein (insulin).

Furthermore, the bibliographic references in articles appearing in the *Chinese Medical Journal* and the range of periodicals to be seen on the library shelves in the major institutions suggest that a watch is also being kept on scientific activity throughout the world and that the Chinese are following a careful policy of balancing practical development and basic research, according to stages that reflect the particular and changing needs and resources of that country.

One cannot immediately transfer the Chinese experiment to other developing countries. Chinese approaches are in part bound to the culture of the Chinese people.

COMH 300
3816
COMMUNITY HEALTH
LIBRARY
AND

They also depend heavily on the attitudes of the population and on community participation and are a part of a highly organized political framework and of the overall process of building a political culture with the slogan "Serve the People" as one of its foundations. Health administrators in each developing country will need to determine, in the light of their own national and political heritage, how much of this approach is practicable in their own environment.

Nevertheless the Chinese prescription for delivery of health services is a practical and successful one and firmly directed at those needs that should also have priority in most other countries. It is thus a source of ideas and new programs that each country can adapt to its own circumstances.

References

(*Abbreviations:* SCMP — *Survey of Chinese Mainland Press*; SCMM — *Survey of Chinese Mainland Magazines*; JPRS — *Joint Publications Research Service*; CMJ — *Chinese Medical Journal*)

1. WHO, Geneva. *An international study of health expenditure.* WHO Chronicle (Geneva), 22, 1968, 83–94.
2. Wilenski, P. S. *Medical care delivery systems in developing countries.* Ottawa, Canada, M.A. Dissertation, Carleton University, 1970.
3. McDermott, W. *The role of biomedical research in international development.* Journal of Medical Education (Washington, D.C.), 39(7), July 1964, 655–669.
4. Btesh, S. *International research in the organization of medical care.* Medical Care (Philadelphia), 3, Jan 1965, 41–46.
5. Bryant, J. H. *Health and the developing world.* Ithaca, N.Y., Cornell University Press, 1969.
6. McDermott, W. *Modern medicine and the demographic disease pattern of overly traditional societies: a technological misfit.* Journal of Medical Education (Washington, D.C.), 41(9), Sep 1966, 137–162.
7. Abel-Smith, B. WHO, Geneva. *An international study of health expenditures.* Geneva, WHO Public Health Papers No. 32, 1967.
8. Szeming Sze. *China's health problems.* Washington, D.C., Chinese Medical Association, 1943.
9. Heller, P. S. *Strategy of health-sector planning in the People's Republic of China.* In Wegman, M. E., Lin, T., and Purcell, E. F., eds., Public Health in the People's Republic of China. New York, Josiah Macy, Jr. Foundation, 1973, 62–108.
10. Sidel, V. W. *Some observations on the health services in the People's Republic of China.* International Journal of Health Services (Farmingdale, N.Y.), 2(3), 1972, 385–395.
11. Fu Lien-chang. *Our journal.* CMJ (Peking), 69(1), Jan–Feb 1951, 1–2; *Summing up report on the activities of the Chinese Medical Association since the Eighth General Conference.* CMJ (Peking), 71(3), May–June 1953, 229–240.
12. WHO, Geneva. *National health planning in developing countries: report of a WHO Expert Committee.* Geneva, WHO Technical Report Series No. 315, 1967. 40 p.
13. Ch'ien Hsin-chung. *Summing up of mass technical experiences with a view to expediting eradication of the five major parasitic diseases.* CMJ (Peking), 77(6), Dec 1958, 521–532.
14. Chang K'ai. *Health work makes big strides in the service of industrial and agricultural production.* Independent Daily (Peking), 6 Oct 1964 (SCMP, 3339, 10).
15. New China News Agency. *Directive of CCP Central Committee and State Council on health campaign issued on Feb. 12, 1958.* NCNA (Peking), 12 Feb 1958 (SCMP, 1722, 1–6).
16. Li Teh-chuan. *Ten years of public health work in New China.* CMJ (Peking), 79(6), Dec 1959, 483–485.
17. Hsii Yun-pei. *Advance the great work of protecting the people's health.* CMJ (Peking), 80(5), May 1960, 409.
18. Ho Piao. *Health departments should take aid agriculture as their primary task.* Red Flag (Peking), (18), 1960, 12–20 (SCMM, 234, 14).
19. Ibid. (SCMM, 234, 9).
20. Takulia, H. S. et al. *The health center doctor in India.* Baltimore, Johns Hopkins Press, 1967, 35–44, 68.
21. Rosinski, E. F., and Spencer, F. J. *Assistant medical officer: the training of the medical auxiliary in developing countries.* Chapel Hill, University of North Carolina Press, 1965, 125–131.
22. Ch'ien Hsin-chung. *Prelude to health marching on the countryside — some problems concerning the work of mobile medical teams for the countryside.* Red Flag (Peking), 13 Nov, 6 Dec 1965 (SCMM, 505, 13–24).
23. Yin Chih-heng and Wang Fa-yun. *Consolidate the cooperative medical service through prevention.* People's Daily (Peking), 4 Jan 1969 (Current Background 872, 24).

24. Independent Daily. *Revolutionizing medical and health work by combining prevention with cure and turning to production — a talk about our experience in introducing extensive reforms to hospital work.* Independent Daily (Peking), 5 Sep 1965 (SCMP, 3547, 10–15).
25. Op. cit. ref. no. 23.
26. Op. cit. ref. no. 21; and DeCraemer, W., and Fox, R. C. *The emerging physician.* California, Hoover Institution on War, Revolution and Peace, Stanford University, 1968.
27. Morrison, R. S. *Opportunities and obligations with respect to international action by United States medical education.* Journal of Medical Education (Washington, D.C.), 41(9), Part 2, Sep 1966, 255–266.
28. United Nations. *Science and technology for development.* In Report at the U.N. Conference on the Application of Science and Technology for the Benefit of Less Developed Areas, New York, 1963.
29. Black, C., ed. *Medical organisation and the medical profession.* In The transformation of Russian society. Cambridge, Mass., Harvard University Press, 1961, 541–552.
30. Fu Lien-chang. *Learning from advanced Soviet medicine.* CMJ (Peking), 71(4), Jul–Aug 1953, 241–247; *Learn from the advanced Soviet medical science with resolution and persistence.* CMJ (Peking), 75(11), Nov 1957, 869–871.
31. Field, M. G. *Soviet socialised medicine: an introduction.* New York, The Free Press, 1967.
32. Chu-Yuan Cheng. *Health manpower in China: growth and distribution.* In Wegman, M. E., Lin, T., and Purcell, E. F., eds., Public health in the People's Republic of China. New York, Josiah Macy, Jr. Foundation, 1973, 139–167.
33. New China News Agency. *Village hospitals set up in Hengyang.* NCNA (Peking), 16 Apr 1958 (SCMP, 1755); People's Daily. *Cooperative medical system introduced in Honan — happiness brought by the People's commune.* People's Daily (Peking), 24 Sep 1958 (SCMP, 1871, 31).
34. Current Scene, Hong Kong. *Mao-Liu controversy over rural public health.* Current Scene: Developments in Mainland China (Hong Kong), 7(12), 15 June 1969, 6.
35. Current Scene, Hong Kong. *Mao's revolution in public health.* Current Scene: Developments in Mainland China (Hong Kong), 6(7), 1 May 1968, 3.
36. Mao Tse-tung. *Selected works of Mao Tse-tung, Vol. I.* Peking, Foreign Languages Press, 1961, 147.
37. Selden, M. *The Yenan legacy: the mass line.* In Barnett, A. D., ed., Chinese Communist politics in action. Seattle, Wash., University of Washington Press, 1969, 142–145.
38. Chou En-lai. *A great decade.* In Ten glorious years. Peking, Foreign Languages Press, 1960.
39. Mao Tse-tung. *On methods of leadership.* In Selected works of Mao Tse-tung, Vol. IV. New York, International Publishers, 1954–56, 111.
40. Lewis, J. W. *Leadership in Communist China.* Ithaca, N.Y., Cornell University Press, 1963, 70.
41. People's Handbook. *Second national conference on health.* People's Handbook (Peking), 1953, 419–420.
42. Fu Lien-chang. *Summing-up of the Ninth General Conference of the Chinese Medical Association held in Peking on December 14th to 17th, 1952.* CMJ (Peking), 71(2), Mar–Apr 1953, 159–162.
43. People's Daily. *Disease prevention during the spring season.* People's Daily (Peking), 12 Feb 1961 (SCMP, 2444, 14–15).
44. Chinese Medical Journal. *All-China conference on parasitic diseases, Nov. 10–16, 1958, Shanghai.* CMJ (Peking), 77(6), Dec 1958, 519–520.
45. Ministry of Public Health. *Circular of the Ministry of Health concerning the issuance of the National Trachoma Prevention Plan.* Peking, Ministry of Public Health, 27 Sep 1958 (JPRS, 14(335), 2 Jul 1962, 576–598).
46. Ibid.
47. Op. cit. ref. no. 44.
48. Feng Lan-chou, Mao Shou-pai, and Liu Erh-hsiang. *Research on parasitic diseases in New China.* CMJ (Peking), 80(1), Jan 1960, 18–19.
49. Hsu Yun-pei. *Advance the great work of protecting the people's health.* CMJ (Peking), 80(5), May 1960, 406–407.
50. People's Daily. *All big cities launch large scale summer patriotic health movement.* People's Daily (Peking), 10 Aug 1971 (SCMP, 4960, 16–19).
51. Op. cit. ref. no. 45.
52. Independent Daily. *Party committee and revolutionary committee of Chishan Hsien, Shansi Province, perseveringly wage mass patriotic public health campaign.* Independent Daily (Peking), 24 Mar 1972 (SCMP, 5107, 112–114).

53. Hou Tsung-ch'ang, Chung Huei-lan, Ho Lien-yin, and Wang Hsin-chih. *Achievements in the fight against parasitic diseases in the New China.* CMJ (Peking), 79(6), Dec 1959, 520.
54. Wen Hui Daily. *Go quickly into action to carry out the patriotic public health movement with elimination of the four pests as key.* Wen Hui Daily (Shanghai), 22 Apr 1968 (SCMP, 4179, 8–9).
55. People's Daily. *Concretely grasp the summer patriotic health movement.* People's Daily (Peking), 5 May 1972 (SCMP, 5135, 116–117).
56. Yangtze Daily. *Epidemic prevention committee of central–south region issues directive; plans for first stage work during 1952 outlined.* Yangtze Daily (Hankow), 25 Mar 1952 (SCMP, 331, 23).
57. Fang Shih-Shan. *Memorandum on the public health and hygiene movement in New China.* CMJ (Peking), 70(6), Sep–Dec 1952, 641–648; and *Effects of war on the health of the people.* CMJ (Peking), 71(5), Sep–Oct 1953, 321–327.
58. Fu Lien-chang. *An address to the members of the medical profession among the delegates to the peace conference of the Asia and Pacific regions.* CMJ (Peking), 71(1), Jan–Feb 1953, 4–6.
59. New China News Agency. *China launches summer health campaign.* NCNA (Peking), 29 Jun 1959 (SCMP, 2048, 42).
60. New China News Agency. *Health campaign for the elimination of pests and diseases set in motion in city and town.* NCNA (Peking), 24 Jul 1959 (SCMP, 2074, 16—17).
61. Yamaguchi, A. *Medical education in the People's Republic of China.* Kagaku Asaki (Tokyo), 3, 1964 (JPRS, 24, 268, 91–96).
62. New China News Agency. *National health campaign.* NCNA (Peking), 21 Jan 1958 (SCMP, 1699, 10–11).
63. Op. cit. ref. no. 16.
64. Summary of World Broadcasts. *China.* Summary of World Broadcasts (Reading, England), 9 Aug 1972, page FE/W685/A/1.
65. Op. cit. ref. no. 60 and ref. no. 63.
66. People's Daily. *Actively and practically promote the patriotic health campaign.* People's Daily (Peking), 15 Jan 1963 (SCMP, 2910, 16–17); and op. cit. ref. no. 54.
67. People's Daily. *Peking launches no spitting campaign.* People's Daily (Peking), 22 Oct 1957 (SCMP, 1645, 21).
68. People's Daily. *Carry out the spring patriotic sanitation campaign in a penetrating manner.* People's Daily (Peking), 6 Mar 1964 (SCMP, 3187, 1–3).
69. Chien K'ang-pao. *Health education for the masses.* Chien K'ang-pao (Peking), 29 Jan 1957 (JPRS, 96, 17 Dec 1957, 5; 583, 12 Feb 1957).
70. China News Service. *National health campaign in full swing.* Peking, China News Service, 18 Jun 1955 (SCMP, 1074, 13).
71. New China News Agency. *Health campaign in Peking.* NCNA (Peking), 22 Dec 1957 (SCMP, 1680, 14).
72. Chinese Medical Journal. *Urban sanitation pace-setter-Foshan* (abridged from Peking Review, 18, 1960, 35). CMJ (Peking), 80(6), June 1960, 564–566.
73. Op. cit. ref. no. 45.
74. Wei-sheng Hsuan-ch'uan Kung-tseo. *Health and sanitation in Communist China.* Wei-sheng Hsuan-ch'uan Kung-tseo, 68, Dec 1956 (JPRS, 96, 17 Dec 1957).
75. Ministry of Public Health. *Directive regarding strengthening of propaganda work in public health.* Peking, Ministry of Public Health (JPRS, 14(335), 2 Jul 1962, 726–730).
76. Op. cit. ref. no. 74.
77. Op. cit. ref. no. 15.
78. Independent Daily. *Penetrating development of patriotic health movement everywhere in the countryside.* Independent Daily (Peking), 17 Apr 1972 (SCMP, 5123, 9–11).
79. Op. cit. ref. no. 15.
80. Op. cit. ref. no. 52 and ref. no. 54.
81. Op. cit. ref. no. 50.
82. People's Daily. *Major cities throughout the country stirred up an upsurge in the winter season patriotic hygiene movement to greet the second spring of the 1970s.* People's Daily (Peking), 26 Jan 1971 (SCMP, 4835, 110–112).
83. New China News Agency. *Third national health work conference held in Peking.* NCNA (Peking), 30 Dec 1953 (SCMP, 723, 12–14).
84. Li Teh-chuan. *New tasks for the protection of public health.* NCNA (Peking), 18 Jun 1956 (Current Background, 405, 10–15).
85. People's Daily. *General mobilization of all people to develop patriotic health campaign.* People's Daily (Peking), 24 Jan 1958 (SCMP, 1722, 6–9).

86. Klein, D. W. *The state council and the cultural revolution.* China Quarterly (London), Jul–Sep 1968, 78–95.
87. Wen Hui Daily. *Paper boats and bright candles light the way to the skies.* Wen Hui Daily (Shanghai), 22 Apr 1968 (SCMP, 4179, 10–11).
88. Summary of World Broadcasts. *China.* Summary of World Broadcasts (Reading, England), 20 Apr 1972, page FE/3968/BII/16.
89. For brief accounts by Chinese authors of methods used and results achieved in other communicable diseases, see the following: op. cit. ref. no. 53; op. cit. ref. no. 13; Joint Publications Research Service. *Epidemic and endemic diseases.* JPRS, 96, 17 Dec 1957, 18–29. For specific diseases, see: *kala azar*: op. cit. ref. no. 48; and Chinese Medical Journal. *New China's achievements in the treatment and prevention of kala-azar.* CMJ (Peking), 73(2), Mar–Apr 1955, 92–99. *Ancylostomiasis*: Wang Cheng-yi, compiler. *Studies on ancylostomiasis in New China.* CMJ (Peking), 78(3), Mar 1959, 257–266; People's Health. *Report on the prevention and treatment of hookworm disease in the Hsi-Pu production brigade of Shan-T'ing People's Commune, Pu'u-T'ien Hsien, Fukien Province.* People's Health (Peking), 1, 1959, 665–667. *Malaria*: Ho Ch'i. *Studies on malaria in New China.* CMJ (Peking), 84(8), Aug 1965, 491–496; and Ho Ch'i and Feng Lan-chou, compilers. *Studies on malaria in New China.* CMJ (Peking), 77(6), Dec 1958, 533–551. *Trachoma*: Kuo Ping-k'uan. *Antitrachoma work in New China.* CMJ (Peking), 79(2), Aug 1959, 101–105; and op. cit. ref. no. 45. *Tuberculosis*: Antituberculosis Association of China, Peking. *Prevention and treatment of tuberculosis in China.* CMJ (Peking), 80(1), Jan 1960, 62–67. *Venereal disease*: Ma Hai-teh (George Hatem). *With Mao Tse-tung's thought as the compass for action in the control of venereal diseases in China.* China's Medicine (Peking), 1, Oct 1966, 52–67.
90. Chinese Journal of Internal Medicine, Editorial Board. *Progress in internal medicine in New China.* CMJ (Peking), 79(3), Sep–Oct 1959, 219–252; op. cit. ref. no. 89, JPRS, 1957.
91. Cheng Tien-hsi. *Schistosomiasis in mainland China: a review of research and control programs since 1949.* American Journal of Tropical Medicine and Hygiene (Baltimore), 20(1), Jan 1971, 26–53.
92. Chinese Medical Journal. *Progress in internal medicine.* CMJ (Peking), 79(3), Sep–Oct 1959, 219–252.
93. Op. cit. ref. no. 84 and no. 89, JPRS, 1957.
94. Wei Wen-po. *The people's boundless energy during the current leap forward.* CMJ (Peking), 77(2), Aug 1958, 107–111.
95. China's Medicine. *First county to wipe out schistosomiasis celebrates tenth anniversary of Chairman Mao's poem — Farewell to the God of Plague.* China's Medicine (Peking), 11, Nov 1968, 683–684.
96. The Culture, Education, Health and Antischistosomiasis Section of Revolutionary Committee of Yukiang County and Yukiang Antischistosomiasis Station, Yukiang, Kiangsi. *A great victory of Mao Tse-tung thought in the battle against schistosomiasis — the 10 years since the eradication of schistosomiasis in Yukiang County in 1958.* China's Medicine (Peking), 10, Oct 1968, 588–602.
97. Ibid.
98. People's Daily. *Hasten to send away the God of Plague.* People's Daily (Peking), 20 Jan 1972 (SCMP, 5067, 103–106).
99. People's Daily. *A hsien in Kiangsi wins victories in elimination of snails and in production.* People's Daily (Peking), 17 Nov 1970 (SCMP, 4789, 48–49); and op. cit. ref. no. 91.
100. Revolutionary Committee of Scihshou Hsien, Hupeh Province. *Make conditions clear through investigation and study, resolutely reclaim wasteland and exterminate snails.* People's Daily (Peking), 20 Jan 1972 (SCMP, 5067, 98–100); People's Daily. *Reclaim wasteland, expand farm acreage and wipe out snails.* People's Daily (Peking), 20 Jan 1972 (SCMP, 5067, 101–102).
101. Ibid., People's Daily (Peking), 20 Jan 1972.
102. Liansheng People's Commune, Zingpu County, Shanghai. *Struggle against schistosomiasis.* China's Medicine (Peking), 11, Nov 1968, 669–672.
103. People's Daily. *Mass campaign in Kaingau to "Send Away God of Plague."* People's Daily (Peking), 12 Jan 1971 (SCMP, 4826, 14–16).
104. Horn, J. S. *Away with all pests: an English surgeon in People's China 1954–1969.* New York, Monthly Review Press, 1969, 192p.
105. Op. cit. ref. no. 84, no. 94, and no. 103.
106. Anting People's Commune, Jiading County, Shanghai. *Drive away the God of Plague with gleaming mattocks and mighty arms.* China's Medicine (Peking), 11, Nov 1968, 662–668.
107. Op. cit. ref. no. 102.
108. Op. cit. ref. no. 53.

109. New China News Agency. *Great achievements in prevention and treatment of harmful diseases attained during past year.* NCNA (Peking), 2 Feb 1957 (SCMP, 1473, 19–21).
110. Op. cit. ref. no. 94.
111. Op. cit. ref. no. 96.
112. Op. cit. ref. no. 53.
113. Wei Wen-po. *Battle against schistosomiasis.* CMJ (Peking), 80(4), Apr 1960, 299–305.
114. Op. cit. ref. no. 84.
115. Op. cit. ref. no. 113.
116. Chinese Medical Journal. *National conference on speed-up of antischistosomiasis campaign.* CMJ (Peking), 85(9), Sep 1966, 633.
117. Op. cit. ref. no. 91.
118. Op. cit. ref. no. 88.
119. Fendall, N. R. E. *Organization of health services in emerging countries.* Lancet (London), 11 Jul 1964, 53–56.
120. Mead, M., ed. *Cultural patterns and technical change.* Paris, UNESCO, 1953.
121. Chinese Medical Journal. *Outline of plans of future medical work in China.* CMJ (Peking), 35, Sep 1949.
122. Mao Tse-tung. *Selected works of Mao Tse-tung, Vol. IV.* London, Lawrence and Wishart Ltd., 1956, 226.
123. People's Handbook (Peking), 1957, 608–609.
124. Croizier, R. C. *Traditional medicine in modern China: science, nationalism, and the tensions of cultural change.* Cambridge, Mass., Harvard University, 1968, 159–161.
125. Ibid., 162–163.
126. Op. cit. ref. no. 74.
127. Independent Daily. *Organize and bring forth the strength of native medicine.* Independent Daily (Peking), 2 Dec 1953 (SCMP, 711, 23–26).
128. Ku Hsing-yuan. *Survey of combined practise (Chinese native and Western medicine) clinics and an investigation and study of joint clinics in Shanghai.* In History of medicine and organization of health services (Peking), II(3), 25 Mar 1958, 192–197 (JPRS, 1480-N, 3–6, 27).
129. Independent Daily Editorial. *Organize and bring forth the strength of native medicine.* Independent Daily Editorial (Peking), 2 Dec 1953 (SCMP, 711, 29).
130. Fu Lien-chang. *Why our Western-trained doctors should learn traditional Chinese medicine.* CMJ (Peking), 73(5), Sep–Oct 1955, 364.
131. Ibid., 366–367.
132. Fu Lien-chang. *Presidential address: the activities of the Chinese Medical Association and its future tasks.* CMJ (Peking), 74(5), Sep–Oct 1956, 416–417.
133. Fu Lien-chang. *Achievements of the Association in the past ten years.* CMJ (Peking), 79(3), Sep–Oct 1959, 209.
134. Chinese Medical Journal. *Directive on study of traditional medicine.* CMJ (Peking), Dec 1958, 603.
135. People's Daily. *Earnest implementation of the party's policy on traditional Chinese medicine.* CMJ (Peking), 78(3), Mar 1959, 203–209.
136. Op. cit. ref. no. 49, no. 411.
137. Op. cit. ref. no. 134.
138. Op. cit. ref. no. 124, no. 174–176.
139. Op. cit. ref. no. 135.
140. People's Daily. *Foster practitioners of traditional medicine to swell the ranks of medical workers.* People's Daily (Peking), 27 May 1956 (SCMP, 1311, 8).
141. Hsü Yun-pei. *Cooperation between traditional Chinese and Western medicine to promote people's health.* CMJ (Peking), 79(6), Dec 1959, 490.
142. Op. cit. ref. no. 128.
143. Worth, R. M. *Institution building in the People's Republic of China: the rural health center.* East-West Center Review, I(3), 1965, 19–34.
144. State Council, Peking. *Circular of the State Council concerning emphasis on the supply of Chinese medicinal herbs while utilizing wild plants raw materials.* State Council, Peking (JPRS, 14,335, 2 Jul 1962, 558–561).
145. State Council, Peking. *The directive of the State Council concerning the question of developing the production of Chinese medicinal herbs.* State Council, Peking (JPRS, 14,335, 2 Jul 1962, 599–607).
146. Summary of World Broadcasts. *Response to Mao's call for combining Western and Chinese medicine.* Summary of World Broadcasts: China (Reading, England), 1 Jun 1971, page FE/3697/BII/18.

147. Croizier, R. C. *Medicine, modernization, and cultural crisis in China and India.* Comparative Studies in Society and History (New York), 12(3), Jul 1970, 288.
148. Op. cit. ref. no. 146.
149. Ibid., FE/3697/BII/20.
150. Taylor, C. E., and Leslie, C. *Asian medical systems: a symposium on the role of comparative sociology in improving health care.* Social Science and Medicine (Oxford), 7, 1973, 316, 318.
151. Li Teh-chuan. *Placing health undertakings at the service of production.* Current Background (Hong Kong), (577), 14 May 1959, 19.
152. Sieh, M. *Medicine in China: wealth for the state. Part II.* Current Scene: Developments in Mainland China (Hong Kong), 3(6), 1 Nov 1964, 3–15.
153. Current Scene, Hong Kong. *Mao-Liu controversy over rural public health.* Current Scene: Developments in Mainland China (Hong Kong), 7(12), 15 Jun 1969, 1–8.
154. Op. cit. ref. no. 17.
155. Red Flag. *The orientation of revolution in medical education as seen from the "barefoot doctors."* Red Flag (Peking), 3, Sep 1968 (SCMM, 628, 3).
156. Op. cit. ref. no. 23.
157. Mao Tse-tung. *Mao directive dated 25 June 1965.* (JPRS, 49(826), 12 Feb 1970.)
158. New China News Agency. *National conference urges wide training of medical personnel.* NCNA (Peking), 17 Aug 1965 (SCMP, 3523, 22).
159. China Reconstructs, Peking. *Co-op medical care in Sun Village.* China Reconstructs (Peking), Nov 1972, 6.
160. People's Daily. *Kwangsi Chuang nationality autonomous region steps up the establishment of communal public health clinics.* People's Daily (Peking), 24 Jun 1972, 148.
161. Chin Wei. *Continue to make a success of the revolution in health work in the countryside.* Red Flag (Peking), 12, 1 Dec 1973 (SCMP, 765, 25).
162. Refshauge, W. *Australia's role in international health service — the present and the future.* Malcolm Gillies Memorial Oration, Royal North Shore Hospital, Sydney, 11 Aug 1969. (Mimeo.)
163. Gibson, G. *Chinese medical practice and the thoughts of Chairman Mao.* Social Science and Medicine (Oxford), 6, Feb 1972, 78.
164. Op. cit. ref. no. 153, 4–5.
165. Op. cit. ref. no. 9.
166. People's Daily. *Medical education must follow the road of thorough revolution.* People's Daily (Peking), 24 Aug 1968 (SCMP, 4254, 5–12).
167. Op. cit. ref. no. 161 (SCMP, 765, 40).
168. Revolutionary committee of the Shanghai First Medical College, Shanghai. *Medical education must be transformed on the basis of Mao Tse-tung's thought.* China's Medicine (Peking), 3, Mar 1968, 159–163.
169. Kao, F. F. *Medicine in China: new discoveries, new concepts and new frontiers.* American Journal of Chinese Medicine (New York), 2(2), 1974, 171–180.
170. Op. cit. ref. no. 32, no. 147.
171. Current Scene, Hong Kong. *Mao's revolution in public health.* Current Scene: Developments in Mainland China (Hong Kong), 6(7), 1 May 1968, 8–9.
172. Red Flag. *The orientation of revolution in medical education as seen from the barefoot doctors — an investigation report.* Red Flag (Peking), 3, Sep 1968 (SCMM, 628, 3–9).
173. Op. cit. ref. no. 161.
174. Op. cit. ref. no. 163.
175. Op. cit. ref. no. 10.
176. Chang Kai. *Health work serving the peasants.* CMJ (Peking), 85(3), Mar 1966, 147; and op. cit. ref. no. 104, no. 139.
177. People's Daily. *Send Chairman Mao's concern into the hearts of the people of all nationalities.* People's Daily (Peking), 26 Jun 1972 (SCMP, 5170, 5).
178. Op. cit. ref. no. 104, no. 136.
179. New China News Agency. *China trains peasant-physicians.* NCNA (Peking), 19 May 1966 (SCMP, 3704, 19); and op. cit. ref. no. 176.
180. China Pictorial. *Production of medicine and medical equipment in Peking.* China Pictorial (Peking), 11, Nov 1971, 10–12.
181. China's Medicine. *Seven red hearts persistently face the red sun.* China's Medicine (Peking), 2, Feb 1968, 91.
182. Op. cit. ref. no. 172, no. 4.
183. Wu Tse-min. *How I have studied and applied Chairman Mao's teachings in my work as a rural doctor.* China's Medicine (Peking), 5, 1968, 283.

184. Sidel, V. W. *Barefoot doctors of the People's Republic of China.* The New England Journal of Medicine (Boston), 286(24), Jun 1972, 1292–1300.
185. Ibid., 1296.
186. Op. cit. ref. no. 161 (SCMP, 765, 38).
187. Lampton, D. M. *Trends in health policy.* Current Scene: Developments in Mainland China (Hong Kong), 12(6), Jan 1974, 3.
188. Rice, D. T. *Three paradoxes in health development.* Public Health Reports (Washington, D.C.), 81, Spring 1967, 885–890.
189. Op. cit. ref. no. 161 (SCMP, 765, 38–39).
190. Op. cit. ref. no. 184, 1297–1298.
191. Red Flag. *An investigation report on how the Ch'lin hsing Brigade in Ch'unhsing (Kuhong) hsien, Kwangtung Province firmly adheres to cooperative medical service over and past eleven years.* Red Flag (Peking), 1, 1 Jan 1969 (SCMM, 642, 28).
192. Op. cit. ref. no. 159, no. 2.
193. People's Daily. *A co-operative medical service welcomed by the poor and lower middle peasants.* People's Daily (Peking), 5 Dec 1968 (Current Background, 872, 1); *Co-operative medical service is just fine.* People's Daily (Peking), 8 Dec 1968 (Current Background, 872, 78); *How we persist in cooperative medical service.* People's Daily (Peking), 19 Dec 1968 (Current Background, 872, 18); *We poor and lower-middle peasants are determined to take the road of cooperative medical service.* People's Daily (Peking), 12 Jan 1969 (Current Background, 872, 32).
194. Op. cit. ref. no. 159, no. 2.
195. Red Flag. *How have we consolidated the co-operative medical service.* Red Flag (Peking), 12, 1 Dec 1972 (SCMM, 744, 75).
196. Op. cit. ref. no. 161 (SCMP, 765, 37).
197. Op. cit. ref. no. 187.
198. Sidel, V. W. *Role and training of medical personnel.* In Wegman, M. E., Lin, T., and Purcell, E. F., eds., Public Health in the People's Republic of China: Report of a Conference, New York, Josiah Macy, Jr. Foundation, 1973, 159.
199. Chinese Medical Journal. *Thriving cooperative medical service.* CMJ (Peking), 6, Jun 1974, 88–89.

Credits

Editor: Marilyn Campbell
Photographs: Sara Rosner, p. 12
J. H. Lindsay, p. 25 and Cover
Cover: Planned Graphics Limited